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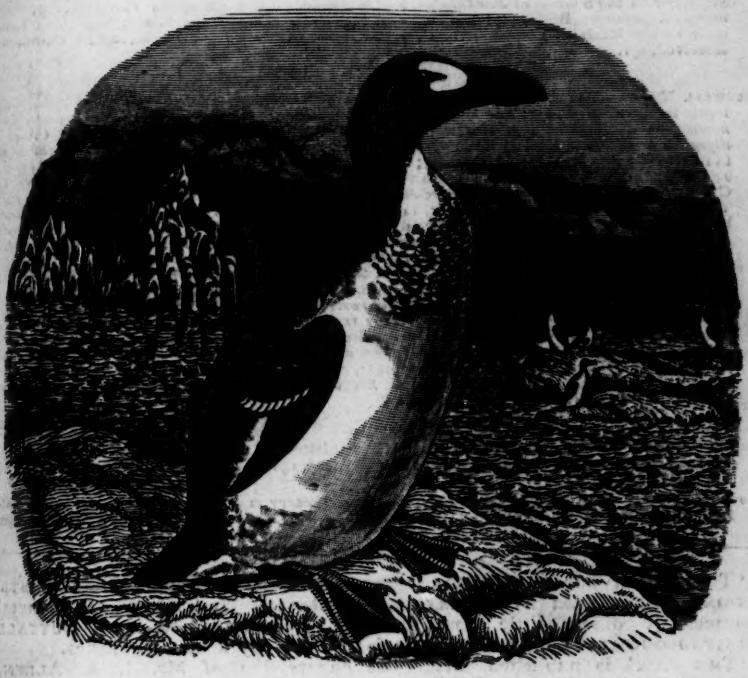

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DESCRIPTIONS OF SIX SUPPOSED NEW SPECIES OF BIRDS FROM THE ISLANDS OF OLD PROVIDENCE AND ST. ANDREWS, CARIBBEAN SEA.*

BY CHARLES B. CORY.

Lampornis hendersoni, sp. nov.

SP. CHAR.—Similar to *L. prevosti*; but bill much shorter and back green instead of bronzy; the bluish black patch on the throat longer and narrower, the top of the head shows a faint ash tinge.

Adult ♂ (Type, No. 10190, Coll. C. B. Cory):—Upper plumage bronzy green, a slight ash tinge on the top of the head; a stripe of bluish black down the centre of the throat, becoming blue on the breast, bordered on either side by grass green, showing bronzy green on the sides of the neck; a tuft of white on the thighs; upper surface of central tail-feathers dark bronze green, outer feathers brownish purple, showing rufous in some lights, edged with dark blue; most of under surface of tail-feathers purple when held in the light; quills dark brown; bill black, about two-thirds as long as that of *prevosti*.

Length, 4; wing, 2.65; tail, 1.50; bill, .78.

Female (No. 10196, Coll. C. B. Cory):—Upper parts similar to the male; throat white with a broad black stripe passing down the centre, becoming dark bluish green on the lower throat and upper breast; under surface of tail-feathers tipped with white and bordered sub-terminally with dark steel blue.

Habitat. Old Providence Island.

[*An author's edition of 250 copies of this paper was published May 28, 1887.—EDD.]

The immature bird has a patch of bright green on the centre of the throat separated by a narrow white stripe from the deep chestnut brown which borders the sides of the throat and breast; most of the tail-feathers are broadly tipped with white, showing a sub-terminal band of dark blue.

Vireosylvia canescens, sp. nov.

SP. CHAR.—Resembles *Vireosylvia grandior* Ridgw., but is ashy instead of greenish on the back, and lacks the olive on the flanks and the yellowish crissum; tail-feathers not green.

Adult ♂ (Type, No. 10195, Coll. C. B. Cory):—Head ash gray, becoming dull grayish olive on the back; a superciliary stripe of dull, buffy white, bordered by a narrow streak of brown on the sides of the crown; a malar stripe of dull brown. Underparts white, faintly tinged with olive; crissum dull white, showing a slight yellowish tinge at the vent; quills and tail brown, showing a tinge of olive on the outer webs of the inner feathers.

Length, 5.60; wing, 3.50; tail, 2.60; tarsus, 80; bill, .70.

Habitat. St. Andrews Island.

Icterus lawrencii, sp. nov.

SP. CHAR.—Similar to *Icterus bairdi;* but having the upper plumage and especially the upper tail-coverts more olive. General plumage apparently darker.

Adult ♂ (Type, No. 10193, Coll. C. B. Cory):—Above yellowish olive, showing a faint brown tinge on the head and nape, nearly absent in some specimens; rump and upper tail-coverts yellowish olive, like the back; throat black, the black passing in front of the eye extending to the nostril; rest of underparts pale orange yellow; wings black, the coverts pure white, forming a broad white wing-patch; tertials and secondaries heavily edged with white, primaries showing a faint indication of white edging on the inner feathers. Tail black, narrowly tipped with dull white.

Length, 7.80; wing, 4.40; tail, .37; tarsus, 1; bill, .80.

Habitat. St. Andrews Island.

I take pleasure in dedicating this beautiful species to Mr. Geo. N. Lawrence, of New York.

Mimus magnirostris, sp. nov.

SP. CHAR.—Bill very large; breast and throat showing a faint tinge of reddish brown, lacking in some specimens.

Adult ♂ (Type, No. 10192, Coll. C. B. Cory):—Upper plumage

slaty gray, showing a brownish tinge on top of the head; underparts white, tinged with orange brown on the throat and breast; tail brownish black, tipped with white, narrowly on the two central feathers but gradually becoming heavier, until the outer feathers have the terminal third and outer web white; quills brownish black, faintly edged with white; bill and feet black.

Length, 11.50; wing, 4.85; tail, 5.75; tarsus, 1.40; bill, 1.

Habitat. St. Andrews Island.

The orange brown coloration of the throat and breast is apparently not a constant character, as several specimens before me show it but slightly and two not at all.

Engyptila neoxena, sp nov.

SP. CHAR.—Resembles *Engyptila collaris*, but is more olive on the back, and lacks the violet metalic collar, which is apparently replaced by green; the general color of the upper parts more closely resembles that in *E. jamaicensis*, but the specimens of the latter bird now before me have the top of the head purplish, showing a greenish gloss on the occiput, while in *E. neoxena* the top of the head is white shading to ash gray.

Adult ♂ (Type, No 10194, Coll. C. B. Cory):—Top of head white, shading into gray on the occiput; chin and throat white, becoming pale purple or violet on the breast; sides of the neck and breast showing metallic purple mixed with metallic green when held in the light; feathers on the upper back showing metallic green, faintly tinged with purple; back dark olive; belly dull white; rest of plumage resembling that of *E. collaris*.

Length, 9; wing, 4.75; tail, 4; tarsus, 1.

Habitat. St. Andrews Island.

But two specimens of this interesting bird were taken and both were badly prepared. It is possible that a larger series would show it to be not specifically separable from *E. jamaicensis*.

Dendroica flavida, sp. nov.

SP. CHAR.—Resembles *Dendroica rufivertex*, but has the orange brown on the head more restricted and paler; throat unspotted, or very nearly so; underparts, including sides and flanks, heavily striped with rufous brown.

Adult ♂ (Type, No. 10191, Coll. C. B. Cory):—Top of the head orange brown showing yellow in front of the eye; nape, back and upper tail-coverts yellowish olive; throat bright pale yellow, touched with one or two indistinct pencilings of brown, rest of underparts

yellow, heavily streaked with rufous brown; wings dark brown edged with yellow; tail-feathers brown, heavily marked with yellow on the inner webs and faintly edged with it on the outer.

Length, 4.75; wing, 2.35; tail, 2; tarsus, .80; bill, .30.

Habitat. St. Andrews Island.

A LIST OF THE BIRDS TAKEN BY MR. ROBERT HENDERSON, IN THE ISLANDS OF OLD PROVIDENCE AND ST ANDREWS, CARIBBEAN SEA, DURING THE WINTER OF 1886-87.*

BY CHARLES B. CORY.

Old Providence.

Dendroica palmarum (*Gmel.*).
Dendroica coronata (*Linn.*).
Compsothlypis americana (*Linn.*).
Seiurus noveboracensis (*Gmel.*).
Seiurus noveboracensis notabilis (*Grinn.*).
Seiurus aurocapillus (*Linn.*).
Seiurus motacilla (*Vieill.*).
Certhiola tricolor *Ridgw.*
Vireo approximans *Ridgw.*
Vireosylvia grandior *Ridgw.*
Spiza americana (*Gmel.*).
Euethia bicolor (*Linn.*).
Tyrannus tyrannus (*Linn.*).
Elainea cinerescens *Ridgw.*
Lampornis hendersoni *nobis.*
Coccyzus minor (*Gmel.*).
Melopelia leucoptera (*Linn.*).
Columba leucocephala *Linn.*
Actitis macularia (*Linn.*).
Ardea virescens (*Linn.*).
Ardea cærulea (*Linn.*).
Ardea tricolor ruficollis (*Gosse*).
Fregata aquila (*Linn.*).

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* [An author's edition of 250 copies of this paper was published May 28, 1887.—EDD.]

Sula piscator (*Linn.*).
Puffinus auduboni *Finsch.*

St. Andrews.

Mimus magnirostris *nobis.*
Galeoscoptes carolinensis (*Linn.*).
Mniotilta varia (*Linn.*).
Dendroica flavida *nobis.*
Seiurus noveboracensis (*Gmel.*).
?Certhiola tricolor *Ridgw.*
Vireosylvia canescens *nobis.*
Vireo noveboracensis (*Gmel.*).
Euethia bicolor (*Linn.*).
Icterus lawrencii *nobis.*
?Elainea martinica (*Linn.*)
Sphyrapicus varius (*Linn.*).
Ceryle alcyon (*Linn.*).
Engyptila neoxena *nobis.*
Actitis macularia (*Linn.*).
Ardea virescens (*Linn.*).
Ardea tricolor ruficollis (*Gosse*).
Fregata aquila (*Linn.*).
Sula piscator (*Linn.*).

BIRDS OF TOM GREEN AND CONCHO COUNTIES, TEXAS.

BY WILLIAM LLOYD.

THE present paper deals principally with the avi-fauna of the valleys of the Concho River and its tributaries east to the Colorado River. It also includes the birds of the plains west of the Pecos River, and north to the Texas and Pacific Railroad, and some few noted incidentally south in Crockett and Edwards Counties, and in Nueces Cañon. The district has a general and nearly equal elevation of nearly 2000 feet above the sea-level, and

is well watered. Spring and Dove Creeks, with the South Concho, flow into the Middle Concho, which unites with the the North Concho at San Angelo, Tom Green County (Lat. 31° 22′, Long. 23°, 19′ W.), and forms the Main Concho, which, after a general easterly course of about forty-five miles, receiving Kickapoo, Lipan (Euterpe on map), Duck, Mustang, and Horse Creeks, falls into the Colorado River, in the extreme east of the county. The creeks are well timbered with pecan, elm, hackberry, a species of walnut, and willows, etc., and have well defined bottoms of an average width of about fifty yards, but frequently are half a mile wide, densely grown with scrub mesquit, small groves of hackberry, wild china, and other small trees, overrun with poison ivy, and laden with parasitic mistletoe. At the heads of the larger creeks is generally a considerable growth of various small oaks, while the hillsides are covered with shin-oak and a species of laurel; and in Tom Green County the head draws of the creeks are full of cedar groves. There are no hills worth noting in Concho County, where the surface is level prairie, gently rolling and broken only by the creeks and dry ravines. It was once treeless but is now being rapidly covered with dwarf mesquit; in many places there is not even a shrub; other parts are well grown with cat-claw, algarita, chapparal, wahilla (a kind of evergreen), and nopal catcus. In summer it is covered with hundreds of flowering plants, of which the verbena and lupin are most numerous. Tom Green County is more broken and has well-defined chains of hills dividing the upper water courses. They are not timbered, however, and, like the Castle Mountains on the plains, exercise no appreciable influence on our birds. The Pecos River is entirely devoid of timber, with exception of the ubiquitous button bush, and has no bird-life whatever peculiar to it, owing no doubt to the alkaline nature of its waters. There is a lake of fresh water on the plains which I have never examined. About a dozen species of catcus occur. A swamp on the head of South Concho is the only ground of the kind in the district; this has some very large live oak studding its borders, and water oak in it. Acres of thistles, in various places in both counties, form in winter admirable feeding grounds for various birds. The soil is very fertile, and underlaid with limestone, of the middle Eocene. Stock-raising was, until the last few years, the only pursuit; now farms are

numerous, and an increasing area is in cultivation every year, on which are raised millet and sorghum for the winter use of stock.

The prevailing wind throughout the year is from the south, tempered in winter every ten days (on an average) by a brisk norther that drives all the birds to the river and creek bottoms. The temperature in winter, though once recorded as below zero, is for December and January 35° in the morning, 45° to 70° at noon, and 40° at dusk. The winter of 1886-87 was exceptionally mild; the temperature has not gone below 10°, and it sleeted once, with a register of 20°. In spring the average temperature is 70° to 80° at noon, rising to 95° in April, and in summer touches 102°.

I have carefully hunted each creek with the sole exceptions of Grape Creek and North Concho—the latter scarcely touched—and have been to Pecos River four times, along the line of the Texas and Pacific Railroad, across the sand-hills, and south into Crockett County and beyond. After I became an observer for the Mississippi ValleyDistrict I noted arrivals every day carefully, as follows:— fall, 1884, Main Concho, near mouth; February to June, 1884, Middle Concho; fall, 1884, South Concho and Plains; 1885, spring, on Spring Creek; fall, on Kickapoo, Lipan, Main Concho, Middle Concho, and Plains; 1886, fall, Lipan and Main Concho, besides visiting all the other localities at various periods.

The record, besides including the following (about 240 species and varieties), should, I have no doubt, contain various others noted north and south of me, as the Blackburnian Warbler, Ground Dove, Prairie Falcon, etc., but as I have not been able to record them for the last three years, with Messrs. Sennett's, Brown's, Goss's, and Ragsdale's (Colorado City) lists to guide me, I have thought it best to make no remarks about them. Whilst having no new species or varieties to describe, my list considerably extends the range of the species named, while others are frequently first records for Texas, as the Western Goshawk, Wright's Flycatcher, Woodhouse's Jay, Black-chinned Hummer (?), Townsend's Warbler (?), and Lewis's Woodpecker.

I am under great obligations to Mr. Everett Smith, who first kindly aided me in my efforts to locate birds of this district, and later to Mr. Ridgway, whose time I am afraid I have considerably imposed upon by my frequent questions as to the status of species

here and elsewhere, and for the last three years to Prof. W. W. Cooke, who has revised my names frequently and given me every assistance in his power in preparing my list. Lastly to Mr. John A. Loomis, of Silvercliff Ranche, I am indebted for much assistance in my later work in Concho County, and who has been able to extend my list considerably, especially among the Game Birds and Raptores, as will be noted in connection with various birds mentioned in the list.

The arrangement and nomenclature is that of the A. O. U. Check-List.

1. **Podilymbus podiceps.** PIED-BILLED GREBE.—Tolorably common in winter.

2. **Urinator imber.** LOON.—Two seen in the winter of 1880.

3. **Hydrochelidon nigra surinamensis.** BLACK TERN.—Tolerably common during the fall migration.

4. **Anhinga anhinga.** ANHINGA.—Tolerably common during the fall migration on South Concho.

5. **Phalacrocorax dilophus floridanus.** DOUBLE-CRESTED CORMORANT.—One shot in the fall of 1880.

6. **Pelecanus erythrorhynchos.** WHITE PELICAN.—Rare in spring and fall.

7. **Merganser americanus.** AMERICAN MERGANSER.—Common in winter.

8. **Lophodytes cucullatus.** HOODED MERGANSER.—Common in winter.

9. **Anas boschas.** MALLARD.—Abundant in winter.

10. **Anas obscura.** BLACK DUCK.—Tolerably common in fall.

11. **Anas strepera.** GADWALL.—Abundant in early winter.

12. **Anas americana.** BALDPATE.—Tolerably common in winter.

13. **Anas carolinensis.** GREEN-WINGED TEAL.—Abundant during spring and fall; a few remain through the winter. Arrives earlier than other Ducks.

14. **Anas discors.** BLUE-WINGED TEAL.—Abundant during spring and fall; a few remain through the winter. Arrives with the last, earlier than other Ducks.

15. **Anas cyanoptera.** CINNAMON TEAL.—Rare in fall.

16. **Spatula clypeata.** SHOVELLER.—Common during spring and fall.

17. **Dafila acuta.** PINTAIL.—Tolerably common in spring and fall. One female shot in June, 1881.

18. **Aix sponsa.** WOOD DUCK.—Migrant in fall; not observed in spring; winters on the Rio Llano.

19. **Aythya americana.** RED-HEAD.—Common in winter.

20. **Aythya vallisneria.** CANVAS-BACK.—Tolerably common in early winter.

21. **Aythya affinis.** LITTLE SCAUP DUCK.—Tolerably common In winter.

22. **Aythya collaris.** RING-NECKED DUCK.—Common in Concho County; some observed in Tom Green County.

23. **Charitonetta albeola.** BUFFLE-HEAD.—Rare; shot in the spring of 1886, in Concho County by Mr. Loomis.

24. **Erismatura rubida.** RUDDY DUCK.—Rare; seen only during spring migration.

25. **Chen hyperborea.** LESSER SNOW GOOSE.—Tolerably common during the spring migration.

26. **Anser albifrons gambeli.** AMERICAN WHITE-FRONTED GOOSE.—Tolerably common in winter.

27. **Branta canadensis.** CANADA GOOSE.—Tolerably common in spring and fall.

28. **Branta nigricans.** BLACK BRANT.—Rare. Shot only in Tom Green County in the winter of 1884.

29. **Dendrocygna autumnalis.** BLACK-BELLIED TREE-DUCK.—Rare in fall on South Concho.

30. **Dendrocygna fulva.** FULVOUS TREE-DUCK.—Tolerably common during the winter of 1884, on the North Concho.

31. **Olor buccinator.** TRUMPETER SWAN.—Tolerably common in winter.

32. **Phœnicopterus ruber.** FLAMINGO.—Accidental visitor in August, 1881, and July, 1882.

33. **Botaurus lentiginosus.** BITTERN.—Common fall migrant.

34. **Botaurus exilis.** LEAST BITTERN.—Common fall migrant.

35. **Ardea herodias.** GREAT BLUE HERON.—Resident; breeds, but nest not found.

36. **Ardea candidissima.** SNOWY HERON.—Resident; breeds, but nest not found.

37. **Ardea cœrulea.** LITTLE HERON.—Resident; breeds, but nest not found. An abundant fall migrant.

38. **Grus americanus.** WHOOPING CRANE.—Rare spring and fall migrant.

39. **Grus mexicana.** SANDHILL CRANE.—Abundant spring and fall migrant.

40. **Porzana carolina.** SORA RAIL.—Rare spring migrant; abundant in fall.

41. **Fulica americana.** COOT.—Common for nine months of the year, and possibly breeds, as I have seen them in June and July.

42. **Phalaropus tricolor.** WILSON'S PHALAROPE.—Tolerably common spring migrant; not found in the fall.

43. **Recurvirostra americana.** AVOCET.—Common fall migrant.

44. **Philohela minor.** AMERICAN WOODCOCK.—Rare in fall and winter on Middle Concho River.

45. **Gallinago delicata.** WILSON'S SNIPE.—Common. Seen every month in the year. No nests or eggs found.

46. **Macrorhamphus griseus.** DOWITCHER.—Tolerably common in the fall. Arrives early in September.

47. **Micropalama himantopus.** STILT SANDPIPER.—Common in fall; arrives September 3 to 5. Rare in spring.

48. **Tringa maculata.** PICTORAL SANDPIPER.—Common spring and fall migrant; arrives in spring April 27 to 29; in fall in September.

49. **Tringa bairdii.** BAIRD'S SANDPIPER.—Common spring and fall migrant, ariving in spring May 9 and 10, and in fall August 30, leaving about October 20.

50. **Tringa minutilla.** LEAST SANDPIPER.—Common in spring and fall; arriving in spring April 10 to May 12; and in fall from July 20 to October 1.

51. **Tringa alpina.** DUNLIN.—Only one observed; shot by Mr. Loomis on Kickapoo Creek, October, 1886.

52. **Ereunetes occidentalis.** WESTERN SANDPIPER.—Common in spring and fall, arriving in spring April 10 to May 12; in the fall from September 4 to October 20.

53. **Totanus melanoleucus.** GREATER YELLOW LEGS.—Common in spring and fall, arriving August 30, some remaining through the winter.

54. **Totanus solitarius.** SOLITARY SANDPIPER.—Tolerably common from September 5 to 22; a few only remaining till October. Rarely noted in spring.

55. **Bartramia longicauda.** BARTRAMIAN SANDPIPER.—Abundant fall migrant, arriving the first week in July, and numerous until September 30. In spring tolerably common, arriving April 19.

56. **Tryngites subruficollis.** BUFF-BREASTED SANDPIPER.—One shot in a flock of Mountain Plover, August 31, 1886, by Mr. Chester Loomis.

57. **Actitis macularia.** SPOTTED SANDPIPER.—Abundant; a few stay to breed; no nests found.

58. **Numenius longirostris.** LONG-BILLED CURLEW.—Arrives August 7 to 12, and is frequently found in large flocks. Some remain to winter, and are again abundant in spring.

59. **Squatarola helvetica.** BLACK-BELLIED PLOVER.—One shot by Mr. Ridge Goodrum, August 31, 1886, is the only record for the district.

60. **Charadrius dominicus.** GOLDEN PLOVER.—All the birds of this species I have seen were shot by Mr. J. A. Loomis, who states that they are tolerably common in fall.

61. **Ægialitis vocifera.** KILLDEER.—Abundant resident. Found eggs March 9, 10, and April 24. In winter they take to the open prairie in flocks of six to ten.

62. **Ægialitis montana.** MOUNTAIN PLOVER.—Abundant migrant in spring and fall. Arrives in flocks August 31 (earliest date), and some remain to winter.

63. **Colinus virginianus texanus.** TEXAN BOB-WHITE.—Abundant resident. Raise two broods. Nest, a depression lined with dried grass at the roots of small bushes, generally 'algarita'. Eggs six to fifteen. Earliest clutch found May 6 (twelve eggs); latest August 10 (fourteen eggs). Range extends west to Pecos. In winter they frequently associate with the Blue Quail.

64. **Callipepla squamata**. SCALED PARTRIDGE.—Abundant resident. A depression under a bush, generally unlined, serves as a nest. I believe only one brood is raised here, as the latest clutch found was May 18 (15 eggs); earliest clutch April 26 (12 eggs). This notice, I believe, extends the range considerably to the eastward, as the bird is found as far east as the Colorado River. Locally known as the Blue Quail. Most abundant between Castle Mountains and Pecos River, in a sort of fine, loose, sandy soil.

65. **Cyrtonyx montezumæ**. MASSENA PARTRIDGE.—Resident in Tom Green County, on the plains near Castle Mountains, and east to within about 20 miles west of San Angelo, on Middle Concho. Also noted in Crockett and Edwards Counties, nearly due south. No nests found. Known as the Black Partridge. The new A. O. U. 'Code and Check-List' gives its habitat as Northwestern Texas, New Mexico, Arizona, and Northwestern Mexico. I have traced it as far south as a line east of Eagle Pass, in Nueces and Frio Cañons; so Western Texas may also be included.

66. **Tympanuchus pallidicinctus**. LESSER PRAIRIE HEN.—Winter visitor; seen in October and November in Concho County, and also in winter on Middle Concho in Tom Green County. Abundant near Colorado City on the Texas and Pacific Railroad. I believe this record extends the range to the south-west. Westward it was abundant to the foothills of the Davis Mountains. Said to have been driven from the Pan Handle counties by the numerous prairie fires.

67. **Meleagris gallopavo mexicana**. MEXICAN TURKEY.—Resident. Once very abundant on every creek, but now rarely to be met with. I flushed a hen from her nest—a depression in a patch of low bushes—May 29, 1882, containing eight eggs; but I have frequently heard of them further south with ten to fourteen eggs. Another brood was raised on a small rushy island in Brady Creek, in the eastern part of Concho County, the young running about June 1, 1883.

68. **Ectopistes migratorius**. PASSENGER PIGEON.—Though not observed in this immediate district, an immense roost was noted in the winter of 1881, near the head of Frio Cañon. The settlers informed me that they had been there all the winter, eating acorns on the hills, and passing and repassing morning and evening in myriads. It was about February 1, 1882, that I saw them.

69. **Zenaidura macroura**. MOURNING DOVE.—Abundant resident. In winter more local, but in large flocks, when they frequently change their roosting place, as a friend (Mr. Loomis) suggests, in consequence of being disturbed by the numerous Owls. He first noticed the fact by noting where they roosted, so as to shoot them as they came in, and returning three or four nights after they had altered their resting place, and did so again and again. They raise two if not three broods, as I found a nest containing two fresh eggs of this species the 20th September, 1886, the latest date I have recorded for any eggs. The earliest date is April 26. They frequently use old Mocking Bird's nests.

70. **Cathartes aura**. TURKEY VULTURE.—Arrives March 17 (earliest date recorded), and remains abundant through the summer, breeding in caves, but frequently on the bare edge of a bluff. Clutches found contain only two eggs (one, doubtful whether this or next, having three). First one found May 6; last one June 10. Leave in September.

After trying various experiments, I notice that although they may smell their prey finally, they often seize and devour it before it has time to smell. These Vultures, the Carrion Crows, and Ravens frequently line the trees or posts waiting for a sheep to die, if in an exposed place.

71. **Catharista atrata**. BLACK VULTURE.—Arrives March 10 to 20, and nearly equals the last in numbers. Breeds *on bare rocks*—June 13, 1884, two eggs.

72. **Elanus leucurus**. WHITE-TAILED KITE.—Rare fall visitor.

73. **Ictinia mississippiensis**. MISSISSIPPI KITE.—Common in fall, in flocks of two to ten. A few must breed, as I have noted them in all the summer months.

74. **Circus hudsonius**. MARSH HARRIER.—Abundant resident. No nests have been found referable without doubt to this species. A great pest to the poultry yard. I have seen them eating carrion. One at the present date (January, 1887), frequently eats the carcasses of birds I have skinned, standing on the ground for that purpose. Generally they fly off with their prey, but eat it on the ground. The Sharp-shinned Hawk turns the wire-fence barbs to account, and the Cooper's occasionally will join the Marsh Harrier in eating a fresh-skinned carcass.

75. **Accipiter velox**. SHARP-SHINNED HAWK.—Abundant in fall; less so in winter. An excessively bold Hawk. I have seen it fly away with a pullet as big or bigger than itself, so heavy that its legs dragged the ground.

76. **Accipiter cooperi**. COOPER'S HAWK.—Another pest of the poultry yard. One flying after some tame Pigeons flew with force through a window in the barn, and was picked up stunned. Abundant in fall; less so in winter,

77. **Accipiter atricapillus striatulus**. WESTERN GOSHAWK.—I shot a male that was digesting a Meadow Lark, in December, 1885, and saw its mate several times.

78. **Buteo borealis calurus**. WESTERN RED-TAIL.—Abundant resident. Breeds from April 22 to May 22. Full clutch, three eggs. Feeds on prairie-dogs, cotton-tails, jack rabbits, and occasionally brings a Scaled Quail to its young. The plumages vary greatly, some birds having very dark under-parts,—but I believe they are referable to this variety.

79. **Buteo lineatus**. RED-SHOULDERED HAWK.—Resident; rare. Breeds (May 10, 1882, three eggs). I have never seen them in winter, but my friend, Mr. Loomis, has several specimens shot by him in November and December, 1885.

80. **Buteo abbreviatus**. ZONE-TAILED HAWK.—Fall visitant. One noted September 10, 1884.

81. **Buteo albicaudatus**. WHITE-TAILED HAWK.—Fall and winter

visitor. I sent a description of this Hawk—seen often before and since—to Mr. Ridgway who says it probably is of this species.

82. **Buteo swainsoni.** SWAINSON'S HAWK.—Resident. Abundant in summer. Breeds in low trees in ravines, in wild china or hackberries, or on the top of bluffs in similar trees. Clutch, three eggs—later ones, strange to say, have only two. Thus nests found March 1, April 1, 4, and 6, had each three eggs, while nests found May 1, 2, and 20, had only two. The young are extremely handsome and seem to go through several changes of color, from light creamy to almost melanistic specimens. This, like the Red-tail, is clumsy, and unwary. It can, however, sail with great swiftness for several miles without flapping its wings. Goes in large flocks sometimes; one seen at Fort Davis, February, 1886, had 200 in it.

83. **Archibuteo ferrugineus.** FERRUGINEOUS ROUGH-LEG.—This species (abundant in winter) was first brought to my notice by Mr. Loomis, who has had great success in killing them in several phases of plumage. It may breed—a point to be ascertained shortly.

84. **Haliæetus leucocephalus.** BALD EAGLE.—Abundant resident. Breeds, March to May. A couple were seen repairing a nest this Christmas, 1886, with cane stalks, and my informant says one bird is now sitting. The nest is in a high pecan, but others are found in mesquit, ten to fifteen feet high.

85. **Falco columbarius.** PIGEON HAWK.—Winter visitor. Common in Tom Green County, in 1883-84.

86. **Falco sparverius.** AMERICAN SPARROW HAWK.—Abundant resident. Nests in old Woodpecker holes in mesquit and live-oak. Nest with young found May 1, 1885; eggs found as late as July 1 (1884). Clutch, seven to eight. A flock of about fifty observed in September, 1885, in Concho County.

87. **Polyborus cheriway.** AUDUBON'S CARACARA.—Resident in the eastern part of Concho County; a few visit the western half in fall; none seen in Tom Green County. Breeds. Nest found in live-oak, about eighteen feet from the ground, with three eggs, April 24, 1881. The same nest was used for two years after. Though in the southern part of Texas they prey on carrion, in Menard and Concho Counties they hunt prairie dogs in couples. Not at all alarmed (as yet) at the 'human form divine.'

88. **Pandion haliaëtus carolinensis.** AMERICAN OSPREY.—My authority for this as a fall visitor is Mr. Loomis, who noted one last fall (1885) on Kickapoo Creek.

89. **Strix pratincola.** AMERICAN BARN OWL.—Resident; rare; breeds. No nest found, but young met with in San Angelo, July, 1885. Seen in Concho County, in August, 1885. Known as the Monkey Owl, or Monkey-faced Owl.

90. **Asio wilsonianus.** AMERICAN LONG-EARED OWL.—Two specimens shot in the fall of 1886, and others noted.

91. **Asio accipitrinus.** SHORT-EARED OWL.—Tolerably common in fall; rare in spring.

92. **Syrnium nebulosum.** BARRED OWL.—Seems to be common on the

main streams, but, like nearly all other Owls, is far oftener heard than seen. No nests found, but undoubtedly a resident. May be var. *alleni*.

93. **Megascops asio mccallii.** TEXAN SCREECH OWL.—Abundant, at least in winter, on the river. Their notes can be heard from September 10 until March 10.

94. **Bubo virginianus subarcticus.** WESTERN HORNED OWL.—Abundant resident. Breeds from February 20 to end of May, in hackberry or mesquit on prairies, and in holes in the large pecans on rivers. I have rarely found more than two eggs in one clutch; three, however, occur in about one nest in six. Feeds on poultry, skunks, and rabbits, and is often on wing during the day. The birds seem to grow lighter with age.

95. **Speotyto cunicularia hypogæa.** BURROWING OWL.—Abundant resident. Breeds from April 1 to May 10, in old deserted dog-holes. Fly by day as well as night. I have found remains of Bell's Vireo, Savanna Sparrow, and other birds in their holes. In winter they hibernate, going in according to the severity of the weather. They appear just before the first migrants. I have noted them for several years, retiring December 1 to 10, and appearing March 1 or 2.

96. **Crotophaga sulcirostris.** GROOVE-BILLED ANI.—Fall visitor. One was shot by Mr. Loomis in October, 1885. I saw several, but did not procure any, in October, 1886. This record extends the range of this species considerably to the north, Mr. Sennett recording it for the Lower Rio Grande.

97. **Geococcyx californianus.** ROAD-RUNNER.—Abundant resident. Breeds from March 30 to May 10. Nest a huge structure in the middle of a bush, in thickets or dry ravines. Clutches number four, seven, six, five, five, eight, nine; average six.

98. **Coccyzus americanus** YELLOW-BILLED CUCKOO.—Abundant in summer. Arrives first week in May; departs middle of September. My notes for 1884, 1885, 1886, respectively, give September 14, September 15, September 14, as latest records. First nest found June 2; last, July 30. Full clutches four-five. Nests in low hackberries, or high pecans. The nest is a very flimsy structure, of about twenty straws crossed, and so poorly put together that after a high wind eggs of both this bird and the Mourning Dove are frequently found on the ground, in pieces.

99. **Coccyzus erythrophthalmus.** BLACK-BILLED CUCKOO.—Spring and fall migrant. Not found west of Concho County.

100. **Ceryle alcyon.** BELTED KINGFISHER.—Abundant resident. Found in spring in small flocks. No nests found.

101. **Ceryle cabanisi.** TEXAN KINGFISHER.—Not detected on Pecos or Concho Rivers. Found in Nueces and Frio Cañons, in Edwards County. In the latter cañon in company with the Belted Kingfisher.

102. **Dryobates pubescens.** DOWNY WOODPECKER.—One shot on Middle Concho, in Tom Green County, January 1883.

103. **Dryobates scalaris.** TEXAN WOODPECKER.—Abundant resident. Breeds April 16 to May 28.

104. **Sphyrapicus thyroideus.** WILLIAMSON'S SAPSUCKER.—Irregular winter visitant. Tolerably common during the winter of 1883. Like all migrating Woodpeckers here, they are very local and may be common in places overlooked by me. Found on North Concho, and also in Nueces Cañon, in Uvalde County.

105 **Melanerpes erythrocephalus.** RED-HEADED WOODPECKER.—Irregular visitant. One shot August, 1885, and another seen but not secured. Only noted on Kickapoo Creek.

106. **Melanerpes torquatus.** LEWIS'S WOODPECKER.—Winter visitor, to the heads of creeks that rise in the plains. Tolerably common on Spring Creek. This record considerably extends the range of this species southward, and is the first (undoubted) notice for Texas.

107. **Melanerpes carolinus.** RED-BELLIED WOODPECKER.—Tolerably common winter resident on Main Concho.

108. **Melanerpes aurifrons.** YELLOW-NAPED WOODPECKER.—Abundant resident. Breeds in holes in mesquit, pecan, and live-oak, from April 10 to May 14. Clutch six. I have traced this bird west to the Castle Mountains, near Pecos River, in Tom Green County, and north to line of Texas and Pacific Railroad, so its range is considerably extended from that given in the A. O. U. 'Check-List,' which merely gives Southern Texas, etc. None found west of Pecos River.

109. **Colaptes auratus.** FLICKER.—Winter visitor. Tolerably common, but excessively wild.

110. **Calaptes cafer.** RED-SHAFTED FLICKER.—Winter visitor. More common than the last and less wild. I have found it due south as far as Frio Cañon, in Uvalde County. Arrives in fall from September 20 to October 6. Latest seen April 17.

Intermediate or 'hybrid' specimens between this species and the last occur in winter.

111. **Antrostomus vociferus.** WHIP-POOR-WILL.—Summer resident. Found only in the eastern part of Concho County.

112. **Phalænoptilus nuttalli.** POOR-WILL.—Abundant summer visitor. First seen in 1884, March 6; in 1885, March 20. Last seen in 1884, November 23; in 1885, October 8. Breeds, and I have undoubtedly found eggs, but stupidly thinking they should be speckled, I thought they were Dove's and left them. Its note is easily imitated. Midnight is their favorite hour on moonlight nights. They lie close in shubbery during the day, or on open flats, and are not easily flushed. Mr. Loomis last year told me they rested on limbs of trees on the creek during the day, to test which statement I went with him and we flushed several as stated.

113. **Chordeiles texensis.** TEXAN NIGHTHAWK.—Abundant summer visitor. Arrives last week in April, in flocks, and at once mate. Raise two broods, and breed on little gravelly ridges on bare ground. Clutch always two. Eggs found May 14, 29, 30, June 1, 30, and July 4. Departs first week in October.

114. **Trochilus colubris.** RUBY-THROATED HUMMINGBIRD.—Abundant summer visitor, arriving April 10-11. I have noted nests only in May, but

it must breed earlier. In fall (September) the eastern migrants are abundant for a week in Concho County; not detected in Tom Green County.

115. **Trochilus alexandri.** BLACK-CHINNED HUMMINGBIRD.—Abundant summer visitor. Males arrive April 1; common April 7. Seen in flocks during the fall migration (September 21 to 28). Raise two broods. Nests found from May 12 to July 2.

Mr Nathan C. Browne first added this species to the Texas avi-fauna; he found it at Boerne, and surmised that it bred to the north of that place, so its range is thus much extended beyond its previously known habitat, *i. e.*, "Pacific coast region, from California east to Arizona, and Utah, and southward."

116. **Milvulus forficatus.** SCISSOR-TAILED FLYCATCHER.—Abundant summer visitor. Earliest arrival March 14; not common until ten days later. Departs, main body, about October 20; a few linger till the first severe norther. Breeds commonly on prairies in mesquit thickets, but often in high pecans. First nest May 6, clutch 5; latest July 16, clutch 5. In ten nests examined only one clutch was 4.

117. **Tyrannus tyrannus.** KINGBIRD.—Fall visitant. Two recorded in fall of 1886.

118. **Tyrannus verticalis.** ARKANSAS KINGBIRD.—Spring migrant. I noted a pair June 1, 1885, in Tom Green County, which had evidently stayed to breed.

119. **Myiarchus crinitus.** GREAT-CRESTED FLYCATCHER.— Summer visitant. Arrives May 31 (probably before); breeds. Nest found in a hole in a mesquit, June 8, 1884; five eggs. Very abundant migrant during September.

120. **Myiarchus cinerascens.** ASH-THROATED FLYCATCHER.—Abundant summer visitor. Arrives the day after or same day as the Scissor-tailed Flycatcher, *i. e.*, after the first cloudy weather in middle of March. Departs a month before the Scissor-tail, but one or two linger for a fortnight after the bulk go. Last seen October 7. Breeds in holes of trees—generally in old Texas Sapsucker holes— and clutches range from 4 to 7; ordinary clutch 6. First clutch found May 9; last, June 9.

121. **Sayornis phœbe.** PHŒBE.—Resident; rare in summer and winter; common in fall. Nests on rocky ledges in caves; clutch 4 to 6. First nest found April 4; last, May 4. Does not winter in Tom Green County.

122. **Sayornis saya.** SAY'S PHŒBE.—Tolerably common winter resident. First arrival, October 10; departs April 13. Ranges east as far as the Colorado River, Texas.

123. **Sayornis nigricans.** BLACK PHŒBE. — Rare summer visitor. Found only in Tom Green County, on Spring Creek. Arrives end of March. Breeds April 4; one clutch found, 6 eggs; nest on a ledge.

124. **Contopus borealis.** OLIVE-SIDED FLYCATCHER.—Fall migrant; tolerably common in September. Not observed in spring.

125. **Contopus virens.** WOOD PEWEE.—Summer visitor. Not observed until May 5; last seen October 21. Tolerably common on South Concho, in Tom Green County, where it breeds. No nests were found, but young

were shot in June. Common in Concho County for two months in the fall.

126. **Contopus richardsonii.** WESTERN WOOD PEWEE.—Two shot in fall of 1886, in Concho County.

127. **Empidonax pusillus.** LITTLE FLYCATCHER.—Tolerably common summer visitant. Breeds. Young shot.

128. **Empidonax pusillus trailli.** TRAILL'S FLYCATCHER.—Spring migrant in the western half of Concho County, and I believe it breeds—a point I thought I had already ascertained, but as there may be some doubt, I cannot positively record it yet as breeding.

129. **Empidonax minimus.** LEAST FLYCATCHER.—Tolerably common summer visitant. Abundant in fall. Have shot young; no nests taken. Arrival noted April 27, 1885.

130. **Empidonax hammondi.** HAMMOND'S FLYCATCHER.—Fall migrant. Rare in Concho County; tolerably common in Tom Green County and the most abundant *Empidonax* across the Pecos River.

131. **Empidonax obscurus.** WRIGHT'S FLYCATCHER.—Rare fall migrant. Secured twice in Tom Green County.

132. **Otocoris alpestris arenicola.** DESERT HORNED LARK.—Abundant winter visitor. Arrives October 20; departs March 6. This is the only Horned Lark noted for either county. None occur in summer to my knowledge, although I have looked especially for them.

(*To be continued.*)

THE RED-HEADED WOODPECKER A HOARDER.

BY O. P. HAY.

THE Woodpeckers are eminently an insect-eating family, and their whole organization fits them for gaining access to situations where the supply of their normal food is perennial, if not always abundant. There are, however, in all probability, few members of the group that will not, when opportunities are offered, forego their accustomed animal diet and solace themselves on soft fruits and luscious berries; and when the blasts blow cold, and the soggy limb is frozen hard, and the larva no longer betrays its location by its industry, the few Woodpeckers of the species which brave our winters are, no doubt, glad to avail themselves of such dry forms of nutriment as grains, seeds of grasses, and the softer nuts.

Notwithstanding the many sagacious traits exhibited by birds, it is, to judge from the books, rather unusual for them to lay up

a store of food for a period of scarcity; and yet it is probable that when we have thoroughly learned their modes of life many will be found to do this. One Woodpecker, *Melanerpes formicivorus*, a near relative of our Red-headed Woodpecker, has long been known as a hoarder of treasures, and an interesting account of its habits is given in Baird, Brewer and Ridgway's 'Birds of North America.' This species is accustomed to dig small holes in the trunks of trees, and to drive into each hole with great force a single acorn. "Thus the bark of a large pine forty or fifty feet high will present the appearance of being closely studded with brass nails, the heads only being visible." It has, by some, been denied that these acorns are collected for food; and it is quite probable that many more are stored away than are ever eaten. It is even related that these birds sometimes hide away in trees collections of small stones. But there are evidences that sometimes, at least, the acorns are utilized. Instinct probably leads the bird to overdo the business of hoarding, just as human reason in a similar direction often misleads its possessors.

Our Red-headed Woodpecker betrays its kinship to the California species by the possession of somewhat similar habits. Its propensity for hoarding does not appear to have escaped the observation of many persons who make no claims to being ornithologists, and yet I find in no scientific work that I have been able to consult any notice thereof. Gentry, who describes minutely the habits of this species, says nothing about this trait. 'The Birds of North America' contains no statement concerning the food of the species; and concerning the hoarding habits of the California Woodpecker they are spoken of as being "very remarkable and, for a Woodpecker, somewhat anomalous."

Along with the great abundance of grains and fruits of the past year, there has been, in Central Indiana at least, an immense crop of beech-nuts; and the Red-heads have appeared to be animated with an ambition to make the most of their opportunities. From the time the nuts began to ripen, these birds appeared to be almost constantly on the wing, passing from the beeches to some place of deposit. They have hidden away the nuts in almost every conceivable situation. Many have been placed in cavities in partially decayed trees; and the felling of an old beech is certain to provide a little feast for a bevy of children. Large handfuls have been taken from a single knot-

hole. They are often found under a patch of the raised bark of trees, and single nuts have been driven into the cracks in bark. They have been thrust into the cracks in front gate-posts: and a favorite place of deposit is behind long slivers on fence-posts. I have taken a good handfull from a single such crevice. That sharpest of all observers, the small boy, early discovered the location of these treasures. In a few cases grains of corn have been mixed with beech-nuts, and I have found also a few drupes apparently of the wild-cherry and a partially-eaten bitter-nut. The nuts may often be seen driven into the cracks at the ends of railroad ties; and, on the other hand, the birds have often been seen on the roofs of houses, pounding nuts into the crevices between the shingles. In several instances I have observed that the space formed by a board springing away from a fence-post, has been nearly filled with nuts, and afterwards pieces of bark and wood have been brought and driven down over the nuts as if to hide them from poachers. These pieces of bark are sometimes an inch or more square and half an inch thick and driven in with such force that it is difficult to get them out. In one case the nuts were covered over with a layer of empty involucres.

Usually the nuts are still covered with the hulls; but here and there, where the crevice is very narrow, these have been taken off and pieces of the kernels have been thrust in. An examination recently of some of these *caches* showed that the nuts were being attacked by animals of some kind. The Red-heads are frequently seen in the vicinity of these stores and they sometimes manifest great impatience at the presence of other birds. That other birds and animals of any kind disturb these *caches* I do not know, but it is quite probable that they do.

Since it might be questioned whether or not the Woodpeckers use for food the nuts thus stored up, I concluded to apply a test that would probably decide the matter. To-day (Jan. 7.), after the prevalance for sometime of severe weather, I shot two Red-heads and made an examination of the contents of their alimentary canal. In the gizzards of both were found considerable quantities of the more or less broken kernels of what appeared to the unaided eye to be beech-nuts. I then made microscopic sections of the pieces and compared them with similar sections of beech-nuts, and the two sets of sections were identical. The Red-headed Woodpecker certainly eats beech-nuts. In the giz-

zards there was also some kind of hard vegetable matter that I could not determine, and some coarse sand; but there were no remains of insects.

The laying up of such abundant stores of food for winter use, in so many places easy of access, and the precautions taken to conceal them, all show a high degree of intelligence in these birds.

The above observations were made in the village of Irvington, near Indianapolis, Ind.

ON THE AVI-FAUNA OF PINAL COUNTY, WITH REMARKS ON SOME BIRDS OF PIMA AND GILA COUNTIES, ARIZONA.

BY W. E. D. SCOTT.

With annotations by J. A. Allen.

(*Continued from p. 24.*)

137. **Coccothraustes vespertina**. EVENING GROSBEAK.—The only locality at which I met with this species was in the pine wood region of the Santa Catalina Mountains, November 26-29, 1884, as already noted. (See Auk, Vol. II, No. 2, p. 174, April, 1885.)

138. **Carpodacus purpureus californicus**. CALIFORNIA PURPLE FINCH.—During several years of collecting in the region under consideration, this species was not met with; and, therefore, I must assume that it is not of regular occurrence. But during the fall of 1885, beginning early in November, I found large flocks in the cañon near my house in the Catalinas. The first flock, noticed on November 11, was, as far as could be ascertained, composed of birds in immature plumage and mostly females. On November 30, I took a male in full plumage, the first I had noticed. All through December and January they were common in both phases of plumage, but a perceptible diminution of adult males was noticed early in February. About the middle of February the species began to disappear. This is the only point where I have noticed their occurrence. They fed almost exclusively on the ripe seed-balls of the sycamore, this season very abundant.

[Among the birds received from Mr. Scott are 12 adult males, 5 young males in the plumage of the female, and 18 females. These appear to differ in no appreciable way from California examples. Mr. Scott's

record, as above, is the first for the Southern Rocky Mountain region. As he suggests, their appearance there is doubtless unusual, and doubtless to be considered as a temporary incursion from the Pacific coast region. —J. A. A.

139. **Carpodacus cassini.** CASSIN'S PURPLE FINCH.—The first records I have of this species were made in the pine region of the Catalinas late in November, 1884. (See Auk, Vol. II, p. 173.) Later in the same year they were present near my house, feeding on the young buds of cottonwood. My notes speak of them as not uncommon through February and March at this point, females and immature birds largely predominating. The latest note of 1885 is on April 27, when, at the same locality, a single one was seen and taken, moulting. I did not meet with them in the mountains afterward, but saw a large flock, many in adult plumage, at Tucson, February 19, 1886.

140. **Carpodacus frontalis.** HOUSE FINCH.—An abundant summer resident, breeding both about Tucson and in the Catalinas up to an altitude of about 6500 feet. They are present about Tucson in smaller numbers during the colder months. This is also true of the species in the lower foothills of the Catalinas, though here they are not nearly so common in winter as about Tucson. The regular migration brings them back to these mountains in large numbers late in February. At first they are in flocks of considerable size, but soon pair and by the third week in March begin nesting. The nesting site is usually in a cholla at no great distance from the ground. I have records of nests, however, sixty feet from the ground in sycamores, and in almost every variety of bush and tree.

141. **Loxia curvirostra stricklandi.** MEXICAN CROSSBILL.—During my visit to the Catalinas in November, 1884, I did not meet with any Crossbills, though careful search was made. But on a subsequent visit to the same locality, November 3-8, 1885, I found the species abundant and quite generally distributed throughout the pine woods. They fed almost exclusively on the seeds of the pine and seemed to affect the vicinity of streams or brooks, constantly going to drink. Now and then I noticed single birds alight on the ground, apparently in search of seeds that had been dropped.

[Fifteen specimens were sent to me by Mr. Scott. They were forwarded to Mr. Brewster for examination in connection with Professor Dyche's specimens obtained at Lawrence, Kansas, and form a part of the Arizona material referred to by Mr. Brewster in his note to Professor Dyche's paper published in 'The Auk,' Vol. III, pp. 260-261.—J. A. A.]

142. **Spinus tristis.** AMERICAN GOLDFINCH.—My records of this species are very limited and were all made near my house in the Catalinas. They are as follows:

December 19, 1885. Flock of three, two males and a female; all adult and in winter plumage. December 30, 1885. Took two adults,—all that were seen. February 4, 1886. Took a single female.

So far as I am aware, Mr. Brown has not found this species about Tuc-

son. All the individuals that I have seen were feeding on the ripe seed ball of the sycamore.

[Six specimens in winter plumage are strikingly different from the eastern bird in corresponding plumage. The white edging of the feathers of the wings and tail in the Arizona bird is much broader; the dorsal surface is much lighter, the yellow of the throat is much purer, lacking almost wholly the greenish shade seen in the eastern bird; the white of the belly is purer, with a faint fulvous instead of grayish shade; the sides are washed with a paler shade of fulvous brown, in quite strong contrast, however, with the almost pure, solid white of the abdomen and lower tail-coverts. If summer specimens should show correspondingly paler tints in comparison with eastern examples, as they are almost sure to do, the Arizona form is quite as well entitled to recognition as a subspecies as are several of the pallid forms of Sparrows which have been accorded this rank.—J. A. A.]

143. **Spinus psaltria**. ARKANSAS GOLDFINCH.—This species, as well as its close ally, *Spinus psaltria arizonæ*, seems in the Catalina region to be rather nomadic and never very common. The following records from my note book will show the manner of their occurrence: Pepper Sauce Cañon, Catalina Mountains, September 16, 1884. One taken, No. 893, an adult male. The testes in this individual were fully as large as in the height of the breeding season. The birds are rather common. Several seen to-day. Same locality, January 12, 1885. Noted; rare. Same locality, March 19, 1885. No. 1916, male; has the testicles as fully developed as in the breeding season. Same locality, April 16, 1885. Pair taken (No. 2172, male; No. 2173, female), apparently mated. On dissection both proved to be adult, though the male is not in full plumage. Probably *psaltria*. They were about to breed, as the testicles of the male were fully developed and the eggs of the female were, some of them at least, half formed and would have been laid at an early day. Same locality, February 10, 1886. Male in full plumage taken, the first seen in two months. The only one noted; feeding on cottonwood flowers. Same locality, July 18, 1884. A number of young seen to-day, fully fledged and no longer with parents. No. 567, young male taken. Same locality, May 5, 1885, No. 2418, female, young of year.

I have been unable to find the nest of this species and am puzzled as to its exact breeding habits, especially with regard to time of year, but a careful consideration of the above notes leads me to believe that the period of breeding extends over a considerable portion of the year.

144. **Spinus psaltria arizonæ**. ARIZONA GOLDFINCH.—This subspecies is much more uncommon in the Catalinas—the only point where I have met with it—than the foregoing. Indeed, I find it difficult to distinguish the transition from true *psaltria* to this form, and again from this form to *Spinus psaltria mexicanus*. Alone each seems distinct. A series placed together renders it doubtful where to draw the dividing lines. All of the examples that I can refer to this subspecies were taken near my house in the Catalinas, as follows:

No. 68, ♂ *ad.* June 13, 1884. Is very dark and intense in color, forming a near approach to *mexicanus*. No. 2663, ♂, May 28, 1885. Typical *arizonæ*. No. 2566, ♂, May 19, 1885. Typical *arizonæ*. This very meagre material is all that has come under my immediate notice.

145. **Spinus lawrencei.** LAWRENCE'S GOLDFINCH.—This species I have not met with, but a female was taken by Mr. Herbert Brown on February 28, 1886, to which he kindly called my attention soon after its capture. Mr. Brown also saw the male bird but was unable to get it.

146. **Spinus pinus.** PINE FINCH.—A rather common, and at times an abundant fall and winter visitor in the Catalina Region, ranging as low as an altitude of 3500 feet. The first fall record I have is October 28, and I have seen them as late as April 16. This was in the vicinity of my house, at an altitude of about 4500 feet. During the winter of 1885-86 this species was associated with flocks of *Carpodacus purpureus californicus*, feeding on the fruit of the sycamore, and was rather common all through the season.

[The considerable number of specimens of this species sent by Mr. Scott, are uniformly somewhat lighter colored than eastern examples, but the difference is much less than that noticed above as occurring between eastern and western specimens of *Spinus tristis*.—J. A. A.]

147. **Calcarius ornatus.** CHESTNUT-COLORED LONGSPUR.—On the mesas of the foothills of the Santa Catalinas, near American Flag (altitude about 3500 feet), I took a single individual of this species, and saw a large flock on November 11, 1885. These are the only times that it was met with.

148. **Poocætes gramineus confinis.** WESTERN VESPER SPARROW.—In general a fall and spring migrant in the Catalina region, which is the only point at which I have notes of their occurrence. During these seasons they are quite common, and a few winter in the same locality. I saw a small flock and took a male (No. 1635) in Mesquite Cañon, altitude 3500 feet, January 24, 1885. On March 12, 1885, there were many everywhere on the mesas of the Catalina foothills.

149. **Ammodramus sandwichensis alaudinus.** WESTERN SAVANNA SPARROW.—Mr. Brown informs me of the occurrence of this species, rather sparingly, about Tucson in fall, winter, and spring. I have not met with it myself.

[I have received from Mr. Brown a specimen taken in the Rincon Mountains, Arizona, May 8, 1886.—J. A. A.]

150. **Ammodramus savannarum perpallidus.** WESTERN GRASSHOPPER SPARROW.—Apparently a rather uncommon resident on the mesas of the foothills of the Catalinas. The following are all the references to it contained in my note book: Hills above Old Hat Cañon, altitude 3750 feet, January 29, 1885. Took an adult female (No. 1682); saw no others, but observed another on January 24 in Mesquite Cañon, at a somewhat lower altitude. Both of these were found in thickets of cat-claw mesquite and *not* in a grassy region. Same locality, March 22, 1885. Took a female (No. 1946), the only one seen.

151. **Chondestes grammacus strigatus.** WESTERN LARK SPARROW.

—Though resident about Tucson, and at the lower altitudes of the region under consideration, they are common in the Catalina region, where they range up to about 5000 feet, only during the warmer months, and I have not met with them at all in the winter. A few were noted in the hills above Old Hat Cañon on May 11, 1885, the first of the season. They breed in this locality, and though I have found no nests, I have taken the young fully fledged in the first plumage.

152. **Zonotrichia leucophrys.** WHITE-CROWNED SPARROW.—This species, in comparison with the next, is apparently rare. I have met with it in September, February, and May, in small numbers, associated with the next.

153. **Zonotrichia intermedia.** INTERMEDIATE SPARROW.—Observed from the last week of September till late in May. The greater part seen in September were in immature plumage.

154. **Spizella socialis arizonæ.** WESTERN CHIPPING SPARROW.—My notes in regard to this form are all from the Catalina region. They indicate that the species is rare in summer, and abundant during the fall, winter, and spring. Mr. Brown has found it common about Tucson in winter. In the Catalinas the birds seem to frequent the bottoms of the wider cañons, feeding on seeds of various grasses, and congregating in large flocks, sometimes numbering several hundred individuals. In March they begin to take on the spring plumage.

[The series of 46 specimens of this form sent by Mr. Scott are mostly in winter plumage, but the considerable number of spring specimens well sustains Mr. Brewster's remarks (Bull. Nutt. Orn. Club, Vol. VIII, pp. 190-191) respecting the differences that may be regarded as characteristic of the western race of *S. socialis*.—J. A. A.]

155. **Spizella pallida.** CLAY-COLORED SPARROW.—I have met with this species only at Mineral Creek, in October and November, and in March.

156. **Spizella atrigularis.** BLACK-CHINNED SPARROW.—Apparently a very rare species throughout the area under consideration. I met with it at the head waters of Mineral Creek on several occasions in October, 1882, and once in the Catalina region, Feb. 26, 1885.

157. **Junco hyemalis.** SLATE-COLORED JUNCO.—A rare species, though of regular occurrence in the Catalina region, which is the only point where I have met with it. I took a male (No. 1576) in Old Hat Cañon, Jan. 8, 1885, the only one seen. It was associated with a large flock of other Juncos, the prevailing form being *J. hyemalis oregonus*. I also took a male Feb. 10, and a female Feb. 11, 1886, near my house.

[The two specimens sent are quite indistinguishable from eastern examples.—J. A. A.]

157*a*. **Junco hyemalis oregonus.** OREGON JUNCO.—The commonest form of Junco in the Catalinas during the colder months. They arrive about the last of October and remain till about April 1.

158. **Junco annectens.** PINK-SIDED JUNCO.—This does not seem a very common form in the Catalinas, the only point where I have observed

it, but the specimens obtained seem to be very characteristic. I generally found it associated with *oregonus*, but have seen small flocks of this species alone, notably in the pines of the Catalinas, altitude 10,000 feet, from November 3 to 8 inclusive, 1885. They were rather common in Pepper Sauce Cañon during the later part of February, 1886, but I did not detect their presence in the pine region above alluded to in April, 1885.

159. **Junco caniceps.** GRAY-HEADED JUNCO.—Next to *oregonus*, this is probably the more common form of Junco, in the foothill region of the Catalinas during the colder weather. My notes indicate that it arrived about my house in the Catalinas October 15, 1884, and became common in a few days. It was abundant in the pine region during my visit, from November 26 to 29, 1884. During January and Feburary, 1885, I saw it almost daily near my house, and late in the latter month noted it as particularly abundant. It was, however, uncommon during the winter of 1885 and 1886 in the same locality. I have taken this form later in the spring, at and about my house, than any of the other Juncos, but did not find it in the pines of the Catalinas in April.

160. **Junco cinereus palliatus.** ARIZONA JUNCO.—I have discussed the occurrence of this species in the pine woods of the Catalinas in a former number of this journal (Auk, Vol. II, pp. 174, 354-355), where it is referred to as *Junco cinereus*. It remains to be added that I also found it in the pine forests of the Pinal Mountains, above Mineral Creek, where it was apparently rare. This was late in October, 1882. In the cañons of the foothills of the Catalinas, and about my house, it is the earliest form to appear in the fall, and a few remain during mild winters. But during the winter of 1885-86, which was severe, I only detected it on a single occasion, February 10, 1886.

160*a*. **Junco cinereus dorsalis.** RED-BACKED JUNCO.—Two Juncos taken in the Catalinas near my house are fairly referable to this form, though No. 1522, a male, had the bright colored sides of the *J. cinereus palliatus*. The following are the records of the two birds in question taken from my note book: Pepper Sauce Cañon, Catalinas, January, 1885, altitude 4500 feet. Took an adult male (No. 1522), which in color is typical of this subspecies, but with bright yellow irides. April 7, same locality, took a female (No. 2122).

[The very interesting series of Juncos in Mr. Scott's collection numbers 197 specimens, of which 2 are referable to *hyemalis*, 80 to *oregonus*, 27 to *annectens*, 35 to *caniceps*, 3 to *dorsalis*, and 50 to *palliatus*. These numbers may doubtless be taken as a fair index of the relative abundance of these forms in the region under consideration. The specimens referable to *oregonus* and *annectens* call for no special notice. About one-third of the *caniceps* series show more or less red on the crown, corresponding in tint to that of the back. In several it tinges, more or less strongly, fully one-half of the crown; in others it is restricted to a few well-defined streaks. That it is not a seasonal feature is shown by its presence in May specimens as well as in October ones. It is also traceable in a few specimens of *palliatus*. There is thus a tendency toward the development of a red crown in at least the *caniceps* form.

Of the three specimens of *dorsalis* one has the bill wholly black and of exceptionally large size.

The *palliatus* series presents much variation in respect to the extension of the red upon the secondaries and the wing-coverts, from those showing but a slight trace of it on these parts, and thus barely separable from *dorsalis*, to those having the greater coverts and inner secondaries as red as the back. In short, the intergradation between these two forms is shown to be complete by the specimens in Mr. Scott's series.

In early spring specimens of both *canicеps* and *palliatus*, the red of the dorsal region is of a much lighter and brighter tone than in autumnal specimens.—J. A. A.]

161. **Amphispiza bilineata.** BLACK-THROATED SPARROW. — A common resident in the foothill region of the Catalinas, and also abundant about Tucson. It breeds commonly at both points, and generally at suitable elevations and localities throughout the region under consideration. In the Catalinas, up to an altitude of 4500 feet, it is rather more abundant in spring and fall than during the breeding season or in the winter. At this point the breeding season begins early in March, and continues well into the latter part of the summer. A male taken near my house, August 16, 1884, had the testes developed to fully as great an extent as at any time during the breeding period. The number of eggs varies from two to five, three or four being the general complement. The nests are built near the ground in some low bush or cactus, and occasionally on the ground. By the 1st to 10th of May in the Catalina region the first broods of young have left the nest and parent birds, and go about in small flocks of from five to twenty. The amount of black showing on the throats of young male birds varies greatly; in some it is hardly to be distinguished, while in others it is conspicuous, though not as brilliant as in the adult birds. There is every possible gradation between these two extremes; and young females often show traces of the black throat-marking.

The species is very familiar, and being so common, and having a pleasing song, it may fairly be considered as occupying about the same relative position in the Fringillidæ of the region that the familiar *Spizella socialis* does in the East.

[Mr. Scott's series of 58 specimens includes 18 in first plumage. They wholly lack the black of the throat and face, but the white superciliary and maxillary stripes are distinct; the whole dorsal surface is of a lighter, more ashy brown, and the feathers of the interscapular region are obscurely streaked centrally with dusky; throat whitish, often with faint touches or streaks of dusky; whole breast streaked with blackish, more or less heavily in different individuals; in some the streaks being narrow and indistinct, in others broad and heavy. The tail is less intensely black, the white edging of the outer webs and the white spot on the inner web of the outer feathers in the adult are usually wholly wanting; the latter is sometimes present, but much reduced in size.

Adults in the fall have the brown of the dorsal surface deeper than in spring and summer, but there is apparently no sexual difference in color. —J. A. A.]

162. **Amphispiza belli nevadensis.** BELL'S SPARROW.—This species is only mentioned once in my notes as occurring in the Catalina Mountains. This at an altitude of 5,000 feet in late September, 1884. Mr. Herbert Brown considers it as not a common bird about Tucson in winter, where he obtained a male, November 2, 1884, and a female, December 28, 1884. I noticed quite a number on the low mesas near the San Pedro, November 22, 1884.

163. **Peucæa carpalis.** RUFOUS-WINGED SPARROW. — In the foothills of the Catalinas this is at times, particularly in late fall and early spring, a common species. During the warmer months, though met with now and then, I cannot consider it as being common, and have been unable to find its nest. In this region, which is the only point where I have met it, it occurs from about 3000 up to 4500 feet, in flocks of from four to twenty individuals, and is not infrequently associated with *S. socialis arizonæ*, having very similar habits.

164. **Peucæa ruficeps boucardi.** — The bird is present in the Catalina region all the year, ranging more or less commonly down as low as 3000 feet in winter, and up into the pine woods during the warmer months. I met with it casually at Mineral Creek, where it was apparently rare. Mr. Brown has no records of it from about Tucson. The song is very pleasing, and the bird is quite tame and familiar, coming to feed on grain and crumbs daily about my house.

This species has been discussed quite fully in former papers of this journal (Auk, Vol. II, p. 354, and Vol. III, p. 83), to which the reader is referred for further details.

[Mr. Scott's series of 46 specimens, 40 of them adult, shows that among the latter there is much seasonal variation in color. In autumnal and winter specimens the yellowish brown wash of the lower surface is much stronger than in spring (April) specimens, this color becoming still paler in specimens taken in June. The browish chestnut in fall and winter birds loses later its vinaceous or purplish tinge, becoming deep reddish brown in the breeding season, with the ashy bordering of the feathers more restricted. The bill also becomes darker. It is thus quite easy to recognize approximately the date of collecting, without reference to the label, from an inspection of either the dorsal or ventral surface of the specimen.

The young in first plumage have the feathers of the breast and flanks narrowly streaked with dusky, the streaks being most distinct on the breast. The general color of the lower parts differs little from that of the adult. Above the head, neck, and interscapular region are ashy brown, each feather broadly centered with dusky. The wings and tail are nearly as in the adult.—J. A. A.]

165. **Melospiza fasciata fallax.** DESERT-SONG SPARROW. — The only point where I have observed this species is in the immediate vicinity of Tucson, where it is apparently resident, though most common during the spring months, and where it breeds. Mr. Brown's observations coincide, I believe, with the above statement. I have no definite data in regard to time of nesting, but have heard the birds singing in late January. So

far as I am aware they are not so familiar about houses as the Song Sparrow of the East.

165 *a*. **Melospiza fasciata montana.** MOUNTAIN SONG SPARROW. — This form of Song Sparrow I noticed not uncommonly on the San Pedro River in January (26-29), 1886. I have also seen it in the vicinity of Tucson on two occasions, both in the winter. Mr. Brown has found it to be a rather irregular visitor and generally uncommon about Tucson during the winter.

166. **Melospiza lincolni.** LINCOLN'S SPARROW. — A regular, though not very common, spring and fall migrant in the Catalina Mountains, and a few probably winter in this locality.

167. **Pipilo maculatus megalonyx.** SPURRED TOWHEE. — A common resident in the Catalinas, where it breeds at altitudes above 5000 feet, and ranges, except in the severest portion of the year, to the highest points. Breeds in the vicinity of my house in May and June. Young, fully fledged in the streaked plumage, were taken about the middle of July. (For further reference to this form, see Auk, Vol. II, No. 4, p. 355.)

168. **Pipilo chlorurus.** GREEN-TAILED TOWHEE. — A common spring and fall migrant, and a few winter in the Catalina region. Most abundant in September and April. I met with it at Riverside and at Mineral Creek, and have also seen it about Tucson. I do not think it breeds within the region in question.

169. **Pipilo fuscus mesoleucus.** CAÑON TOWHEE. — A common resident throughout the entire region, and ranges up to the pine forests in the warmer months. The first nests were found in the Catalina region (altitude 3500 feet) about the middle of March, from which time the breeding period extends well into July.

[A young bird in first plumage lacks the chestnut crown-patch; the rump and upper tail-coverts are decidedly rufous, contrasting with the back; the wing-coverts are tipped with yellowish white, forming two narrow wing-bars; the throat, whole breast, and flanks are distinctly streaked with dusky. — J. A. A.]

170. **Pipilo aberti.** ABERT'S TOWHEE. — Occurs as a resident about Tucson and at Florence, which are the only points where I have personally observed it. It is by no means as common as the last, and does not, so far as I am aware, enter the foothills or range up into the mountains. The height of the breeding season about Tucson is in the latter part of May and early June.

171. **Cardinalis cardinalis superbus.** ARIZONA CARDINAL. — This form seems to have a very general distribution throughout the area treated of, ranging up to about 5000 feet in the mountains. It is perhaps most common in the foothills at an altitude of 3500, and is particularly conspicuous, both by its very brilliant plumage and clear, melodious song. This does not seem very different from that of the typical bird save that it has possibly greater volume. In the Catalinas I find them most common in cañons where there is considerable growth of juniper, and the same holds true at the point where I observed them on Mineral Creek.

172. **Pyrrhuloxia sinuata.** TEXAN CARDINAL. — Rare or casual in

the foothills of the Catalinas. I have observed it here on only two occasions. Rather common, especially in early spring, about Tucson. Mr. Brown found it commonly in the Quijitoa country in the winter of 1884 and 1885. I did not observe it at either Florence or at Riverside.

173. **Habia melanocephala.** BLACK-HEADED GROSBEAK. — At Mineral Creek, altitude 5000 feet, this species was breeding in small numbers during the summer of 1882. The only other point where I have met with it is in the Catalina Mountains, where it undoubtedly breeds at the highest altitudes, and where after the first of July it rapidly becomes abundant as low down as 3500 feet. Here I found it in large scattered flocks, during July, August, and September, 1884, feeding on all the small wild fruits and seeds that are abundant at this time of year. Its arrival at this same locality was first noted May 1, and it remains till about the first week in October.

I took a remarkably fine albino of this species on August 15, 1884, in Pepper Sauce Cañon, Catalina Mountains.

174. **Guiraca cærulea.** BLUE GROSBEAK. — The only records I have of this species are kindly furnished me by Mr. Brown, who finds it rather rare about Tucson late in May and early in June.

175. **Passerina amœna.** LAZULI BUNTING. — Observed at Mineral Creek in August, 1882. Took a young male (No. 624) in Pepper Sauce Cañon (4500 feet), July 27, 1884. These are the only records I have made of the species. Mr. Brown has found it breeding, but not common, about Tucson, where it is most frequent during the spring migration.

176. **Spiza americana.** DICKCISSEL. — The only record of this species is furnished by Mr. Herbert Brown, who took a female near Tucson on September 11, 1884, and later kindly showed me the bird in his collection.

177. **Calamospiza melanocorys.** LARK BUNTING. This species, if it does not breed within the area under consideration, is present almost the entire year and sometimes is to be met with in enormous flocks. I find in my notes large flocks noted near Florence, Dec. 10-20, 1883. On the mesa, above Pepper Sauce Cañon, Catalinas (altitude 4000 feet), I saw Aug. 17, 1885, two large flocks, composed of adult and young in about equal numbers, the adult males still in full plumage. A small flock was seen in Old Hat Cañon, Catalinas (4000 feet), on March 10, 1885 — first of the spring migration. A number of large flocks were noted on the plains about Tucson, Feb. 19, 1886.

(*To be continued.*)

RARE BIRDS OF NORTHEASTERN NEW BRUNSWICK.

BY PHILIP COX, JR.

BEFORE entering upon the subject of this paper, it is well to say something concerning the character and climate of this cor-

ner of the Dominion (Newcastle on the Miramichi River), as the reader will then be better able to appreciate the facts presented.

Snow falls here about November 1, and winter can be said to begin about the 20th of the month. Soon pond, lake, and river are ice-bound, and field and forest clad in their winter robes. The snowfall increases until about the middle of March, when it lies to the depth of from three to six feet; and during all this time the thermometer is hardly ever above zero. A temperature of from 15° to 30° below is often reached, and for weeks and weeks the average may be 18°; but, strange to say, our climate does not *seem* severe, nor do our people complain of the cold. This is largely due to the surprising dryness of the air, and the absence of raw winds. Our days are bright, our nights, starry; the auroral displays are of surpassing grandeur, while the remarkable uniformity of the temperature is not the least striking feature of our climate.

About the 20th of March, the sun's increasing power begins to be felt, and the snow would henceforth waste away rapidly were it not for cold east winds which at this time begin to blow from off the floating ice-fields of the Gulf of St. Lawrence, and neutralize the action of the sun. Thus spring creeps on very slowly, or rather we have no spring at all, in the general meaning of the term; for it is frequently the 1st of May before our fields are bare, and then warm summer is upon us. Thus summer and winter meet, as it were, on friendly terms, shake hands, and get along tolerably well without the interference of a meddlesome third person. By the side of some ice-layer or snow-drift, the Mayflower, trillium, and other plants are often found in bloom, marking the sudden transition of climate.

In this latitude a cold winter generally presupposes a warm summer, but luckily for our country we are an exception to this rule; for no other locality, perhaps, in the Dominion of Canada can boast of such cool, refreshing weather as the shores of the Miramichi and far-famed Baie des Chaleurs. Of this fact our neighbors to the south and west are becoming aware; for thousands of them flock every summer to our little towns and villages to enjoy the delicious coolness and health luxuries of our seaside homes. And what visions of pleasure and happiness must they fondly recall after such a visit! Bright, sunny days, tem-

pered by gentle sea breezes, sweet, fresh and cool, like the fanning of unseen wings; a sun, wondrously large and red, rising from behind the sea, and as if cooled by its morning bath, lacking all day its usual "ardent frown"; a sky unflecked with a cloud by day, and deeply blue by night, studded all over with twinkling stars; the mellowed whiteness of a moon soaring high through an azure canopy, flooding meadow and forest with her silvery beams, or lighting up the breeze-rippled surface of the sea in long flickering lanes, like fairy paths leading to dreamland; a distant mountain rearing its huge form higher and higher from out the softened shades of night and anxious to catch the first glimpse of returning day; a health-laden breeze from the sea meeting a warmer one from the land and mingling its purity and strength with the odor of flowers from lawn, meadow, and forest; the waves at their feet murmuring the mysterious soul-language of eternity, and blending with the equally plaintive rustling of leaves overhead; who that has once seen, felt, and enjoyed all this will not yearn for it again?

Here, too, come students of nature to investigate her vigorous northern life—her handiwork in sea and air, lake and river, mountain and valley. The botanist finds a rich, interesting field, for in addition to the varied flora of forest, plain, and shore, he can fairly revel at ebb tide in a comparatively unexplored world of sea-ferns and Algæ. Bay and river, too, teem with fish, from the lordly salmon to the quaint, delicate sea-needle; and molluscan life in myriad forms inhabits the sea-bottom, or in death yields to the waves palaces of pearl to be strewn on the sand beaches—a gift of beauty from the lovely unseen.

It is with the bird life, however, that I and the readers of 'The Auk' are most concerned. Over this region an immense bird-wave rolls twice every year; now harbingers of sweet songs, rippling waters, and flowery banks; then forerunners of winter's icy reign. The varied character of surface makes it a favorite resting ground and breeding place of very many species. On all sides are extensive forests of evergreens; while sloping hills, clad with deciduous trees, marsh and upland, swamp and meadow, mud flats and sandy shore, resound with the rustling of wings, shrill piping notes, or sweet warbling songs.

During the migration the broad, shallow lagoons of the Miramichi Bay, protected from the disturbing winds and waves o

the ocean by long winding sand bars, or 'beaches,' swarm with Geese, Brant, Ducks, Cormorants, Gulls, Terns, etc., converting this locality into the finest shooting ground to be found anywhere on the Atlantic coast of America, where hundreds of sporting gentlemen resort every year. Moreover, an additional charm attaches to it as an observing station because of its proximity to the Baie des Chaleurs, the generally accepted northern *coast* limit of the Canadian Fauna, and many interesting problems in ornithology, respecting the range of several species, may be worked out in this section.

Having premised so much, I will now proceed to deal with the subject of this sketch.

About the 10th of January, 1884. some farmers in the neighborhood of Nequac, an Acadian village on the northern shore of Miramichi Bay, observed what they took to be a stray Turkey, feeding almost daily around their houses and farmyards. Thinking it belonged to some villager, they did not molest it It was remarked, however, that the bird did not roost at night about the outbuildings; it generally disappeared at sunset, no one knew whither; but early next morning it would be found industriously turning over refuse and manure, apparently as tame and confiding as an ordinary domestic fowl. It would permit a person to approach within six or eight feet before seeming to notice his presence; then it would flutter to the nearest post, returning to the ground almost immediately. Its decided preference for garbage became at length the subject of discussion in the neighborhood, and several, among whom was Mr. Ruben Vienneau, began to grow skeptical about the stranger's genus. It was pointed out, however, that the Turkey had a well known weakness for flesh food, and was not particularly exact, sometimes, about the quality either; but Mr. Vienneau, having witnessed some of the stranger's wondrous gastronomic feats in swallowing wholesale large quantities of disgusting offal, refused to be converted from the apparent error of his ways. He continued to watch its movements and habits with more suspicious eyes. The hooked beak, long middle toe, and absence of the noisy 'gobble' were all noted and discussed, and finally the bird began to lose caste. Many plans were taken to effect its capture, but in vain. 'Childlike and bland' when feeding, even stupidly indifferent sometimes, it seemed capable, however, of exercising a surprising

amount of caution; and no efforts or devices of its enemies could induce it to enter trap, cage, or barn. A crisis at length arrived. A sheep had died a few days before, and on January 29, Mr. Vienneau descried the 'Turkey' on the carcass, feeding on the entrails. This was the last straw that broke the back of his tottering faith. "C'est l'oiseau du diable," exclaimed the excited Frenchman, as he seized a gun and shot the impostor dead.

Through the timely thoughtfulness of Mr. Anthony Adams, merchant of Nequac, the bird was sent to John Nevins, Esq., police magistrate of the town. Justice Nevins takes a lively interest in ornithology, and has one of the finest private collections in New Brunswick. It proved to be a veritable Turkey Buzzard (*Cathartes aura*), and Mr. Vienneau's "l'oiseau du diable" now occupies a prominent place in that gentleman's cabinet.

Towards the middle of last September, I was astonished at learning that another Turkey Buzzard had been captured by Mr. David Savoy, of Black Brook, one of the numerous lumber-milling villages on the estuary of the Miramichi, and about twenty miles in a direct line from Nequac. The bird was, when I saw it, on exhibition in Chatham, a small town, situated about half-way between Newcastle and Black Brook. Mr. Savoy described the manner of its capture; how he had hung up a salmon net to dry, and the bird had in some way become entangled in it. It was very wild he said, when first taken, but in three weeks a great change had come over it; for when I saw the bird, it was feeding in a yard with ordinary poultry, which took no more notice of its presence than they did of one of themselves. I noticed, too, that the sight of one eye had been destroyed, and the ball was withered and sunken.

Its domestication seemed largely due to food alone; for, as observed above, the creature was wild when first captured, but upon being fed grew remarkably docile, and made no further attempt to escape. When describing its manner of eating, especially the first meal, Mr. Savoy ruefully shook his head. That was enough. If the creature had to be fed on meat, it must be got rid of; as long as he kept it, he had a veritable white elephant on his hands. One day he observed it greedily devouring some unsavory garbage. He was horrified, but smiled as a thought of relief came to him; the butcher's slaughter-house was at hand, and immediately Buzzard stock took a boom. Even after stuff-

ing itself with offal, it would feed indiscriminately on the grain, potatoes, etc., cast to the barn-yard fowls, seemingly never satisfied.

I saw it also by night, perched a few feet above a stable floor; and in the presence of a lamp it acted very much like an ordinary fowl, except that it manifested a desire to hide its head from the glare of the light. During the whole period of its captivity, extending over three weeks, the bird made, it would seem, no attempt to fly; and this fact, added to its apparent stupidity, inclined me to believe that it had received some injury. I purchased it from the owner, who killed and sent it to me. Upon skinning the specimen, I discovered the cause of the blindness, for a small shot, probably a No. 6, was found imbedded under the edge of the iris of the withered ball. The pellet was encysted, and very much oxydized, showing it had been lodged there some time. Moreover, two similar pellets were detected, one under the skin on the left side, the other on the arm of the left wing; while the arm of the right wing had lately been pierced by a large shot, ploughing the muscle open and passing through the fleshy part of the shoulder, forming an ugly wound. The surrounding parts were very much discolored and inflamed. Such an injury must certainly have destroyed the bird's power of flight, and accounts, to a certain extent, for its apparently rapid domestication, and the aversion it showed to flying, but does not bear out the alleged manner in which it was captured.

This poor creature had evidently had a rough experience. Its was the checkered career of a tramp Ishmaelite, with every man's gun against it; and we cannot help regretting that its flight to these boreal regions to escape its southern tormentors, resulted so fatally to itself.

I am also informed by a gentleman who saw the bird after it was killed, that a Turkey Buzzard was shot five years ago in the vicinity of Kingston, Kent Co., about forty miles southeast of this town, and near the seashore.

The only other records known to me of their occurrence in northern localities, along the Atlantic sea-board are those of two taken in Massachusetts in 1863, and one reported from St. Stephen by Mr. Boardman, date not given. Nequac and Black Brook are, however, two hundred miles north of St. Stephen, and the difference in average summer temperature is even greater than would

be inferred from the difference of latitude; for the latter place is within the influence of the warm Bay of Fundy waters, whereas the former are upon a coast washed by colder Arctic currents. Why this species should be found here more frequently than to the south of us is an interesting problem for ornithologists. I cannot suggest an explanation. The common food supply seems neither more inviting nor abundant. Our coasts, it is true, abound more in fish, and maritime garbage would likely be more plentiful, but I am not sure that these birds show any marked predilection for this kind of diet.

On the fifth of last April, I was walking on the railroad track, in the vicinity of the town, shortly before sunset, when I came across three birds which were entire strangers to me. They were feeding at the time on the side of an embankment that, owing to its southern aspect, was already bare of snow; and as they flitted to the ground and returned to the telegraph wires, their blue backs and wings flashed brilliantly in the rays of the setting sun, causing me to think at first of the Jay; but no, these pretty strangers were but half his size. Fearing to approach too closely, lest they might take flight, I attempted to observe them for some time at a distance; but not having my field-glass, it was very unsatisfactory, besides curiosity kept urging me nearer and nearer. Presently, and to my great relief, it dawned on my mind they were paying very little, if any, attention to me, being wholly intent on foraging; and thus I was enabled to approach within a few yards, whence I made out more clearly the color of the plumage. Judge of my feelings of astonishment and incredulity, when their general characteristics suggested *Sialia sialis*—the Eastern Blue Bird, which I had merely read of, but had never seen. Impossible! Up in this cold dreary north on the fifth of April, with the whole country, field and forest, covered with a mantle of snow three feet thick! Surely I must be snow or color blind! Look again. Observe their rapid, but graceful descent, the accuracy with which they drop on their prey, and their almost immediate return. How quietly and still they sit on their perch, until some moving object attracts their attention; how familiar and confiding: they do not seem to notice my presence at all. If they are apprehensive of danger, and move off a little, the distrust is concealed under the appearance of business, seemingly making a longer flight to

pounce upon some insect. O yes, there can be no mistake about the birds' identity, those bright blue backs, wings, and tails, the reddish-brown breasts, the quiet demeanor, the feeding habits, all belong to but one, the Blue Bird; but will not the identification be discredited by professional ornithologists, since it was the work of an amateur? As far as I knew the species had never been reported farther north than the vicinity of St. John, and but rarely from there; Newcastle, however, was 150 miles from St. John, and almost directly north. These seemed to me strong reasons for taking one, but alas; I had no gun.

By this time the sun had set. The air began to grow chilly; my interesting companions ceased feeding, and commenced chirping to one another, as if discussing, what next? Presently a decision was reached; for the three rose on the wing, and were soon lost in the gathering shades of the dark pine forest.

The gray dawn of the morrow found me, gun in hand, hastening over the strong crust field, across which even a Goliath could have strode in safety. Everywhere silence reigned, disturbed only by the hard snow crunching under my feet, and echoing from the nearest pine clad hills.

The dark green of the woods had, during night, given place to a silvery covering of frost which transformed the whole forest into a mass resembling a great white cloud, thrown against the horizon of a blue sky. From the early chimney tops, columns of pale smoke were rising into the still morning air, so tall and graceful and white as to seem like delicate marble pillars supporting the arched dome overhead. But that which claimed most of my attention, and filled me with alternate hope and fear, was, shall I see again my feathered visitors of the evening before? When I reached their feeding ground nothing was to be seen. I waited long and anxiously. Presently the sun rose large and red, and shook his brilliant rays in profusion over the snowy landscape. Soon the whole forest was aglow, flashing and sparkling as if set with a million gems, but, like some fond dream or hope of the young heart, it soon vanished, leaving nothing except the dull reality. In a few minutes the hardy Crossbills ventured forth from their night retreat, and with sharpened appetites, began breakfasting on the cones, whispering to one another all the time. A Pine Grosbeak and Purple Finch, a solitary

Robin, and an occasional Jay added in turn their voices to wake up the slumbers of bird life.

That blue flash! What is it? Yes, there are the three pretty objects of my curiosity, perched on the telegraph wires where I last saw them, as quiet and easy of manner, as confiding and thoughtless of danger, and even more beautiful than on the evening before. I had killed hundreds of birds in my life: I had never felt such an absorbing interest in one before; yet on no occasion did I ever raise my gun with so much reluctance to take a life. And when at length I held in my hand a beautiful lifeless form, heard its two little friends, companions of its long journey and dreary nights, whispering to one another, methought, in mournful tones; when I saw them rise in the air, uttering a loud shrill note that sounded in my guilty ears like the curse of betrayed innocence, and fly away never to be seen by me again, my heart grew heavy, and I almost cursed that professional incredulity which drives an amateur into acts of needless cruelty. And even now as I raise my eyes from the paper, and look upon the graceful form, perched on a tiny stand, ornamented more than usual as if to make some restitution for the destruction of its life, the motionless presence recalls the events of that sunny April morning, and stirs anew the feeling of regret and pain.

THE PRESENT CONDITION OF SOME OF THE BIRD ROOKERIES OF THE GULF COAST OF FLORIDA.

BY W. E. D. SCOTT.

Second Paper.

SATURDAY, May 8. We were up and away early. Sailed out of the Nyakka River and along the northwest shores of Charlotte Harbor as far as Cape Haze; saw very few birds, and those only the commoner species.

From Cape Haze we crossed the harbor to the mouth of Matlacha Pass, the wind blowing almost a gale from the west.

This pass is between the mainland and Pine Island, the largest of the islands in Charlotte Harbor. On the way over my attention was attracted by large flocks of Man-o'-war Birds, which, with an ease and grace that surprised me, were fishing in the rough water during a very strong wind. There were hundreds of them in all phases of plumage.

We reached our destination—the island which Mr. Wilkerson had told me was the breeding place of Reddish Egrets—at about four o'clock, and at once came to anchor. A few Herons were to be seen from time to time flying to the island, and presently I took the small boat and went ashore to reconnoitre. This had evidently been only a short time before a large rookery. The trees were full of nests, some of which still contained eggs, and hundreds of broken eggs strewed the ground everywhere. Fish Crows and both kinds of Buzzards were present in great numbers and were rapidly destroying the remaining eggs. I found a huge pile of dead, half decayed birds, lying on the ground which had apparently been killed for a day or two. All of them had the 'plumes' taken with a patch of the skin from the back, and some had the wings cut off; otherwise they were uninjured. I counted over two hundred birds treated in this way. The most common species was the Reddish Egret, though there were about as many Louisiana Herons; the other species were the Snowy Heron, Great White Egret, and the Little Blue Heron in both phases of plumage. There were also a few Pelicans, White Ibises, and one or two Great Blue Herons. I remained there till almost dark, but did not fire at any of the few frightened Herons (about fifty in all), which came to roost on the island. Among these I noticed a few Reddish Egrets and two of the so-called Peale's Egrets, but most of the birds were the commoner species of Heron. This was the rookery that Mr. Wilkerson had spoken of; within the last few days it had been almost destroyed, hundreds of old birds having been killed and thousands of eggs broken. I do not know of a more horrible and brutal exhibition of wanton destruction than that which I witnessed here. I shall have to refer to this point later, as I visited it again in about a week, and there learned from a man I met further details of the slaughter, the results of which I had witnessed.

Sunday, May 9. This morning Capt. Baker went with me in the small boat to explore in detail the neighboring islands. We

found a lamentable scarcity of birds, and the Captain assured me that ten years before, when on fishing trips in these same waters, and at about the same time of year, the whole region fairly teemed with bird life of all kinds.

About 12 o'clock we returned to the sloop and got under way, going through the pass in the direction of Punta Rossa. After sailing along for some six or seven miles we came in sight of a small island where many Brown Pelicans were breeding or about to breed. We anchored and went to the island in question to have a closer look at the inhabitants. The Pelicans, of which there were some forty or fifty pairs, were just beginning to build. There were also some Reddish Egrets, a few of which were in the white phase of plumage. Beside these were many *Ardea ruficollis tricolor*, some *Ardea candidissima*, and a few *Ardea egretta*. None of the Herons, save a pair of *Ardea virescens*, had begun to build; the others were only looking the ground over. I fancied that some of them had been driven to this point from the large rookery found deserted the evening before. I watched the rookery till dark, not firing at anything; a great many Herons of all the kinds above enumerated, as well as one pair of *A. herodias*, many Florida Cormorants, White Ibises, and additional pairs of Pelicans came to roost at the island. All of them were very shy and suspicious, being startled by the slightest noise or movement, and none of the birds would come near the island until the small boat had returned to the sloop. Just at dusk six of the so-called Peale's Egrets came in and alighted on the mangroves close by me. I learned later that the birds on this island had been much persecuted by gunners, and that thousands of all the species seen here had formerly bred and roosted at this point. Also that at one time many Roseate Spoonbills (*Ajaja ajaja*) had made this a roosting place.

Monday, May 10. In the morning we camped on the island, about half a mile away from the rookery, and during the day I added to my collection seven Reddish Egrets, one Peale's Egret, and four other Herons, including a fine *A. herodias*. Among the Reddish Egrets taken were three specimens which showed a very considerable admixture of *white* feathers on the head, throat, and breast, thus approaching the Peale's Egret type; and there is no question in my mind but that the two phases are forms of the same species. For further remarks on this matter

I refer to certain notes made by Mr. James Henry Devereux in Tampa Bay and published by me in the 'Bulletin of the Nuttall Ornithological Club,' Vol. VII, 1881, p. 20.

While hunting to-day I heard repeatedly the song of a Vireo that was new to me, but as the birds were shy and kept in the densest mangrove swamps, I was unable to procure one. Thanks, however, to Mr. Atkins, then at Punta Rossa, but now of Key West, I later identified the species as the Black-whiskered Vireo (*Vireo altiloquus barbatulus*), as I have already recorded (Auk, Vol. IV, April, 1887, pp. 133-134).

During the afternoon there were countless Man-o'-war Birds flying over in enormous flocks, and at great height.

Tuesday, May 11. The Captain and Mr. Dickinson went to Punta Rossa for water and letters, and I spent the day making into skins the birds killed late yesterday. About 5.30 in the evening I went to the rookery, but though I sent the boat back to our camp, and though not a gun had been fired in the heronry during the day, the birds were so alarmed by the little shooting I had done the day before, that but very few birds save Brown Pelicans came to roost at the rookery. I mention this to show how very wary the birds had become, and how well they knew the meaning of the report of a gun. I took only seven birds during the time between half past five and dark.

Wednesday, May 12. Wishing to visit again the rookery before mentioned, the Captain and myself started in the small boat early this morning, leaving Mr. Dickinson in charge of the sloop and camp. We had only some seven miles to go, and reached our destination about noon. On the way through the islands there were many Reddish Egrets and other small Herons, but all were very shy and had evidently been much hunted. After getting some dinner and making a sort of camping place for the night on one of the islands, we went, about the middle of the afternoon, to the rookery.

The condition of affairs here was much the same as I have already described, except that not having been disturbed for a few days, the birds were beginning to come back to the ground in considerable numbers, and many Louisiana Herons were building, and some had nests with one or two eggs.

We found, in camp at the rookery, Mr. Frank Johnson, of Mound Key, whose postoffice address is Punta Rossa, Florida,

and who is a professional 'bird-plumer.' He had returned to this point this afternoon, having been here a few weeks earlier, when he had found the birds very numerous. He was hunting plumes, particularly of the Snowy Heron, American Egret, and Reddish Egret, as they brought the highest prices, but he killed to sell to the 'taxidermists,' as he called them, "almost anything that wore feathers." He said he wished there was some law to protect the birds, at least during the breeding time, which would not be violated. He added, however, that as everybody else was 'pluming', he had made up his mind that he might as well have his share.

He was killing birds and taking plumes now for Mr. J. H. Batty, of New York City, who employed many men along the entire Gulf Coast from Cedar Keys to Key West. When asked what Mr. Batty purchased, it was again "almost anything that wore feathers, but more particularly the Herons, Spoonbills, and showy birds."

Mr. Batty was, he told me, well known all along the Gulf Coast, and had made regular trips to this region for the past three winters or more. He was the gentleman I heard of at Hickory Bluff, who bought birds, travelling about the coast in a small schooner and supplying the native gunners with breech-loading shot guns and ammunition. Mr. Johnson had bought a gun of Mr. Batty and was using it when I met him. One barrel of this gun was for shot, 12-guage, and the other was a small bore rifled. This last, Johnson explained to me, he used for Pelicans and other wild birds, and as it made so little noise, was serviceable in getting the smaller Herons at close range in the rookeries.

I shall give later more details of Mr. Batty and his method of working, as I met him and stayed about for some five or six days where he was killing birds. To go on with Mr. Johnson. He had lived about here for many years, and told me of the enormous rookeries and breeding places that had formerly been the homes of the birds of this region. Now most of them were entirely deserted, and the number of those still resorted to by an ever decreasing population were yearly becoming smaller; that it was easy to find thousands of birds, five or six years back, where absolutely none existed now. My own observation leads me to agree with this statement, but, in fact, the destruction must have been greater than can be realized.

Mr. Johnson told me of the extermination of a Brown Pelican Rookery, near where he lived, which is a very fair example of the atrocities that have been and are still being committed to obtain 'bird plumes.'

It seems that the year before the Brown Pelicans selected a small mangrove island near to that on which Mr. Johnson lived, and about eighty or a hundred pairs made nests, laid eggs, and hatched out their young. Johnson had not touched the birds or disturbed them, as he proposed to let them rear their young. But one afternoon when Johnson was absent from home hunting, the old Frenchman before referred to, A. Lechevallier, came in with a boat, and deliberately killed off the old birds as they were feeding the young, obtaining about one hundred and eighty of them. The young, about three weeks old, to the number of several hundred at least, and utterly unable to care for themselves in any way, were simply left to starve to death in their nests, or to be eaten by raccoons and Buzzards. It is needless to say that the birds never came back to that rookery.

There were very few birds that came in to roost at the rookery where we were, and I killed only one Reddish Egret. I paid Johnson two dollars not to shoot, so that I might get a good idea of the birds, both as to kind and number that roosted there. Johnson went with us back to the camp, and it was during the evening that he gave the information transcribed above.

Thursday, May 13. Going back to the sloop this morning I saw very few birds; in the afternoon I went out to the roosting place and killed two Reddish Egrets; one of them had large patches of white feathers on the throat, neck, breast, and back. A flock of them in the pure white phase (*A. pealei*) flew by me, just out of gun shot, during the afternoon. These birds are not at all uncommon at this locality, but are not so numerous as at points further south. They are well known by the 'plume hunters' as 'muffled-jawed Egrets', and sound and flat skins of them command good prices. I saw, in a rookery at the north entrance to Matlacha Pass, among a great pile of other birds that had been recently killed and their plumes removed, twelve of this phase that were easily recognizable, having had only the skin of part of the back, neck, and head taken off.

For the last few days I have noted Black-bellied Plover in full plumage, going north in considerable flocks. These were,

I think, undoubtedly *Charadrius squatarola*, although no specimens were obtained. I am much impressed with the great numbers of the far northward breeding birds which are present still in large numbers at points about here. At any of the passes or outside beaches I see daily and in large flocks such birds as *Charadrius squatarola*, *Ægialitis semipalmata*, *Arenaria interpres*, *Macroramphus griseus*, *Tringa canutus*, *T. minutilla*, *T. alpina*, *Calidris arenaria*, etc. These I carefully identified and made almost daily notes of their occurrence until the 25th of May. After that observations were made of *Macroramphus griseus* in large flocks as late as June 10.

Friday, May 14. Spent the day in waiting for some of the larger birds to dry—so as to pack them—and in hunting for the Black-whiskered Vireos, which appear to be common but particularly wary and difficult to see in the thick mangrove.

Saturday, May 15. Packed up everything in readiness to continue course to-morrow, leaving birds to dry until the last moment.

Sunday, May 16. Left early this morning, and going south about four miles, anchored again off two large mangrove islands just inside of the south end of Pine Island. Here were more birds breeding than at any point where we had thus far cruised. These were principally Brown Pelicans, and there must have been at least two hundred pairs or more. The nests were in most cases finished, and many of them contained eggs.

The Florida Cormorants also had nests in considerable numbers, and beside these a few pairs of Great Blue Herons were breeding on the island. No other birds were breeding here.

There were many thousands of Man-o'-war Birds that made this a roosting or resting place, and many of them were here more or less through the day, their numbers being greatly augmented every night. They were in all phases of plumage and generally moulting.

The birds are said not to breed anywhere on the Gulf Coast, except at two points near Key West, and the breeding season, judging from the examples of the birds obtained, was past by two or three months. These birds haunt the Pelican and Heron rookeries, preying on the fish brought to the young birds, and are as truly parasitic as the Jaegers. Often, too, I have seen

them chasing the small Gulls, obliging them to give up fish just caught. Again they are to be seen in the wake of a school of porpoises, taking whatever comes in their way, such as muti lated fish and the like.

In the nests of the Great Blue Herons in the rookery, four nests in all, I was surprised to find young birds. In most cases they were nearly ready to fly, but one nest contained chicks not more than two weeks old. This, taken in connection with the fact of their having half grown young as early as February 7, at Tarpon Springs—a point more than a hundred miles north — is indicative of a long breeding season—at least five or six months—and the probability that two broods are hatched. However, this late breeding may not be normal, for the birds are all so harassed and driven about by plume hunters, that their plans for breeding are evidently greatly disarranged.

Perhaps the following facts will make this more apparent to the reader and corroborate the above statement.

I have several times taken the different species of Herons and Egrets at *roosting rookeries* where there was not a single nest, and far away from any known breeding ground, which had in their ovaries fully developed eggs with shells on. Some of them had evidently laid one or more eggs and, being severely frightened by hunters, had deserted their breeding grounds. At such rookeries I have frequently found broken eggs lying on the ground, though there would be no nests on the island and the birds would only come to roost late in the afternoon and leave very early in the morning.

Again during the late summer and early fall months of the present year I have twice found inland rookeries where the nests still contained some eggs and where there were young birds of all ages. One such case was near Tarpon Springs where several hundred birds were breeding, August 26, 1886. At this date there were unhatched eggs in the nests, besides young in all stages, from those just hatched to those ready to fly. The birds were mainly *Ardea cærulea*, though there were a few *A. ruficollis tricolor*, and *A. candidissima*.

At the rookery last mentioned before this digression, I spent the day after eleven o'clock, and as I did not fire a gun during the time there was ample opportunity to examine the various species that were breeding, and those that came to roost there at

night. Among the latter were many Reddish Egrets, a few of which were in the white phase, and all of the common Herons and Egrets in small numbers.

Monday, May 17. Obtained a number of Man-'o-war Birds as they flew by our anchorage, the weather being stormy. The day was about consumed in making them into skins. All of these birds were moulting and some of them I took to be young of that year.

Tuesday, May 18. Spent about as yesterday, save that I was all the afternoon at the rookery, where the birds seem to have increased in numbers, especially at roosting times, and I think that some other breeding place, not very remote, having been attacked by the plume hunters, numbers of the birds have been driven off and have escaped to this point.

Wednesday, May 19. Packed up all the birds collected at this and other points, all having been unpacked to dry, and started in in the afternoon for Punta Rossa, some six miles distant. I have omitted to state that our camp for the past few days had been on the north point at the mouth of the Caloosahatchie River and at least a mile away from the rookery. Arriving at Punta Rossa at about four o'clock, I soon made the acquaintance of Mr. J. W. Atkins, the assistant telegraph operator at this point, the cable for Key West and Cuba having its starting point at Punta Rossa. Mr. Atkins is much interested in birds, and has a good collection of skins made in the main just about Punta Rossa.

His collection embraces most of the commoner species of small birds that occur in the vicinity, and I noticed such rare birds as Cape May Warblers, and a single Mangrove Cuckoo, taken at Punta Rossa. Here we obtained the *Dendroica discolor* described at length in 'The Auk' for April, 1887 (p. 134).

Thursday, May 20. We waited for the mail to arrive and about 10 A. M. started again on our cruise, this time going to the east of Pine Island, and kept a northerly course; for, wishing to look over some of the ground in more detail on the way back, I had determined to go no further south. At Punta Rossa to-day I again met Mr. Abe Wilkerson, who had just returned from his trip to the Myakka Lakes, where he did not meet with much success, for though he found large rookeries, the birds had been so persistently hunted they had become very wild. He had about seventy-five 'plumes,' I believe, as the result of the trip,

mostly of the Snowy Heron. He told me that the Mexican Buzzard, as he called it, was common in the region where he had been and showed me a skin of one that he had killed. The bird was *Polyborus cheriway*, and it breeds in this area, at least such is my conjecture from birds of the year that have been sent to me from the vicinity of the headwaters of the Myakka River.

Wanting a good pilot and a man conversant with the country I hired Mr. Wilkerson to make the trip with me back to Tarpon Springs, and besides the work he did I gained much valuable information concerning the condition of the breeding grounds further south, and the decrease in birds during the past few years. Without going into too great details, it was substantially the same as the facts gathered from Frank Johnson, Mr. Atkins, and others, and is a story of almost a war of extermination.

To-day we passed a large rookery known as the Boca Grande Rookery, and here I saw a few 'Pink Curlews,' as the 'plumers' call *Ajaja ajaja*, but as there was a constant discharge of guns, and as the war seemed to be going on without any appearance of ceasing, we passed on without stopping. The principal birds seemed to be Man-o'-war Birds and Brown Pelicans, and though there were large numbers of each, Captain Baker said that when he was fishing for a season at this point a few years before, there were hundreds of birds of all kinds at this rookery where there was one now.

We kept on our course north and, sailing up along the east coast of Pine Island, crossed over the mouth of Charlotte Harbor and anchored for the night at a deserted fishing station just south of Big Gasparilla Pass. It was quite dark when we anchored here, so I saw no birds. But during the afternoon and until dark large flocks—hundreds—of Gulls, which I thought were mostly *Larus atricilla*, passed close to the water, not fishing but evidently migrating northward. Many of these birds were in immature plumage, and I shall have occasion to refer to them again later in connection with other species observed.

(*To be continued.*)

THE BIRDS OF THE WEST INDIES, INCLUDING THE BAHAMA ISLANDS, THE GREATER AND THE LESSER ANTILLES, EXCEPTING THE ISLANDS OF TOBAGO AND TRINIDAD.

BY CHARLES B. CORY.

[*Continued from p.* 120.]

FAMILY PHASIANIDÆ.

GENUS **Numida** LINN.

Numida LINNÆUS, Syst. Nat. I, 1766.

Numida meleagris LINN.

Numida meleagris LINN. Syst. Nat. I, p. 273 (1766).—GOSSE, Bds. Jam. p. 325 (1847).—DENNY, P. Z. S. 1847, p. 39 (Jamaica).—SALLÉ, P. Z. S. 1857, p. 236 (San Domingo).—SCL. P. Z. S. 1861, p. 80 (Jamaica).—ALBRECHT, J. f. O. 1862, p. 204 (Jamaica).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 303 (Jamaica).—BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 97 (1866) (San Domingo).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 397 (1866).—SUNDEV. Oefv. K. Vet. Akad. For. 1869, p. 601 (Porto Rico).—LAWR. Pr. U. S. Nat. Mus. I. p. 487 (1878) (Barbuda).—A. & E. NEWTON, Handb. Jamaica, p. 117 (1881).—CORY, Bds. Haiti & San Domingo, p. 16 (1885); *ib.* List Bds. W. I. p. 24 (1885).

Common in Cuba, San Domingo, Jamaica, Porto Rico, and Barbuda.

Ortalida ruficauda is mentioned as occurring in the Grenadines, and is supposed to have been introduced (*Lawr.* Pr. U. S. Nat. Mus. I, p. 278 (1878)).

FAMILY TETRAONIDÆ.

GENUS **Colinus** LESS.

Colinus LESSON, Man. d'Orn. II, p. 190, 1828.

Colinus cubanensis (GOULD).

Ortyx virginianus D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 182 (1840).—SUNDEV. Oefv. K. Vet. Akad. For. 1869, p. 601.

Ortyx cubanensis GOULD, Mon. Odont. (1850).—CAB. J. f. O. 1856, p. 337.—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 307 (1860).—ALBRECHT, J. f. O. 1861, p. 213.—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 303 (1866).—GRAY, Handl. Bds. II, p. 273 (1870).—GUNDL. J. f. O. 1874, p. 300; *ib.* 1875, p. 293; *ib.* 1878, p. 161; *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 350 (1878).

Ortyx cubensis SCL. & SALV. Nom. Avium Neotr. p. 137 (1873).

Ortyx virginianus var. *cubanensis* BD. BWR. & RIDGW. Hist. N. Am. Bds. III, p. 468 (1874).

Colinus cubanensis CORY, List Bds. W. I. p. 24 (1885).

SP. CHAR.—Upper portions of throat and superciliary stripe white; band of neck passing from the mandible, under the eye, down the sides of the neck; breast and lower portion of throat black; back chestnut, variegated with dull brown; the feathers on the nape heavily spotted with white; under parts variegated, dull brown, rufous, white, and dark brown; sides of the body dull rufous, heavily spotted with white and black; primaries dull brown.

The female differs from the male in having the white stripe and throat tawny buff, and in lacking the chestnut on the breast to a great extent.

Length, 8; wing, 4; tail, 2.50; tarsus, 1; bill, .45.

HABITAT. Cuba and Porto Rico.

Colinus virginianus (LINN.).

Tetrao virginianus LINN. Syst. Nat. I, p. 277 (1766).

Ortyx virginiana GOSSE, Bds. Jam. p. 328 (1847).—CORY, Bull. Nutt. Orn. Club, VI, p. 154 (1881) (Haiti).

Ortyx virginianus A. & E. NEWTON, Ibis, 1859, p. 254 (St. Croix).—BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 120 (1859) (Bahamas).—SCL. P. Z. S. 1861, p. 80 (Jamaica).—ALBRECHT, J. f. O. 1862, p. 205 (Jamaica).—MARCH, Pr. Acad. Nat. Sci. Phila. 1863, p. 303 (Jamaica).—LAWR. Pr. U. S. Nat. Mus. I, pp. 237, 487 (1878) (Antigua).—CORY, Bds. Bahama I. p. 142 (1880).—A. & E. NEWTON, Handb. Jamaica, p. 117 (1881).—CORY, Bds. Haiti & San Domingo, p. 138 (1885).

Colinus virginianus CORY, List Bds. W. I. p. 24 (1885).

SP. CHAR. *Male:*—Above rich brownish red, mottled with black; crown black, shading into brown at the base of the skull, and mottled with black and white on the nape; a white superciliary line passing from nostril to nape; throat white, bordered broadly with black; upper breast and sides reddish brown, shading into white on the belly, the feathers thickly banded with black; crissum reddish brown; tertials and some of the wing-coverts edged with yellowish white; bill entirely black.

Female:—Resembles the male; the white of the head and throat replaced by tawny, without black edging.

Length, 8.50; wing, 4.50; tail, 2.50; tarsus, 1; bill, .52.

HABITAT. Bahamas, Haiti, San Domingo, Jamaica, St. Croix, and Antigua.

The forms represented in the different islands vary considerably, and it is possible that they represent good geographical races. The Bahama bird differs from that found in Florida in having heavy chestnut stripings on the side much broader than in the Florida birds. The black on the throat is more restricted; the lower throat showing considerable chestnut, separating the black from the upper breast; the red on the back is paler. The feathers on the underparts are very heavily banded with black, about equalling some specimens of *floridanus* in this respect, but the underparts are never mottled gray as in some specimens of *cubanensis*. The Bahama bird differs even more from that found in San Domingo, which has the underparts covered with narrow black arrow-shaped markings, somewhat obsolete in the female; the male having a patch of black on the throat succeeded by pale chestnut; the general chestnut coloring is paler than in the Bahama bird.

GENUS **Eupsychortyx** GOULD.

Eupsychortyx GOULD, Mon. Odontophorinæ, p. 15-16, 1850. Type, *Tetrao cristatus* LINN.

Eupsychortyx sonninii (TEMM.).

Perdix sonninii TEMM. Pig. et Gall. III, p. 451 (1815); *ib.* Pl. Col. 75 (1820-29).

Eupsychortyx sonnimi NEWTON, Ibis, 1860, p. 308 (St. Thomas).—CASSIN, Pr. Acad. Nat. Sci. Phila. 1860, p. 378 (St. Thomas).—CORY, Revised List Bds. W. I. p. 24 (1885).

Ortyx sonninii NEWTON (REINHARDT), Ibis, 1861, p. 114 (St. Thomas).

SP. CHAR. *Male:*—Face dull white; head crested; feathers of the crest dull buff brown; throat and superciliary stripe passing down the sides of the neck dull brownish red; sides of the neck mottled with black and white; upper back mottled with reddish brown, buff, and black; rest of upper surface marked with chestnut, black, and gray, margined with buff; tail slaty dotted and marked with buff and dark brown; primaries brown; chest grayish, mottled with brown; rest

of under surface, sides, and under tail-coverts chestnut brown, the feathers dotted with white; bill black.

Female:—Top of the head and crest brown; throat and superciliary stripe dark gray, tinged with pale brown; flank marking paler than in the male; general plumage somewhat paler than in the male, and the black patches somewhat heavier.

Length, 7.50; wing, 4.30; tail, 2.55; tarsus, 1.30; bill, .54.

HABITAT. St. Thomas.

In 1860 Professor Newton mentions this species as occurring in St. Thomas. The bird undoubtedly still exists in the Island of St. Thomas. I have lately seen a specimen in the collection of Mr. Geo. N. Lawrence, from that Island. It was probably introduced from South America.

Cassin writes (l.c.), "Mr. Swift has had the kindness to inform me that this species was introduced into the Island of St. Thomas some years since, from Venezuela, and that it has now become of frequent occurrence, quite naturalized, and rearing young freely throughout the Island. The present specimens are exactly the species figured by Mr. Gould under this name, and identical with specimens in Acad. Mus. labelled 'Venezuela' and 'Cumana.'"

FAMILY ŒDICNEMIDÆ.

GENUS Œdicnemus TEMM.

Œdicnemus TEMMINCK, Man. d'Orn. 1815.

Œdicnemus dominicensis CORY.

Œdicnemus dominicensis CORY, Journ. Bost. Zool. Soc. II, p. 46 (1883); *ib.* Auk, I, p. 4 (1884); *ib.* Bds. Haiti and San Domingo, p. 140 (1885); *ib.* List Bds. W. I. p. 25 (1885).—THOMPSON, Auk, II, p. 110 (1885).

SP. CHAR. *Male:*—Top of the head, back, wing-coverts, and tail brown; feathers with very pale edgings, giving a mottled appearance to the back; the tail-feathers showing a band of dull white, succeeded by a broad black tip; breast slaty becoming dull white on the throat; abdomen white tinged with very pale rufous; a line of black passing from the top of the eye, along the sides of the head to the neck; under surface of wings white, becoming dark brown at the tips; the shafts of the feathers on the breast and throat dark brown, form-

ing numerous hair-like lines on the surface of the plumage; legs and feet greenish yellow; upper mandible black; under mandible green at the base, shading into black at the tip.

The sexes appear to be similar.

Length, 14.50; wing, 8.50; tail, 3.75; tarsus, 3.75; bill, 1.50.

HABITAT. San Domingo.

FAMILY CHARADRIIDÆ.

GENUS **Charadrius** LINN.

Charadrius LINNÆUS, Syst. Nat. I, 10th ed. p. 150, 1758; *ib.* 12th ed. p. 253, 1766.

Charadrius dominicus MÜLL.

Charadrius dominicus MÜLL. Syst. Nat. Suppl. p. 116 (1776).—CASSIN, Pr. Acad. Nat. Sci. Phila. 1864, p. 241 (Jamaica).—A. & E. NEWTON, Handb. Jamaica, p. 115 (1881).—CORY, List Bds. W. I. p. 25 (1885).—WELLS, List Bds. Grenada, p. 7 (1886).

Charadrius virginianus GOSSE, Bds. Jam. p. 333 (1847).—GUNDL. J. f. O. 1856, p. 423 (Cuba).—A. & E. NEWTON, Ibis, 1859, p. 255 (St. Croix).—MARCH, Pr. Acad. Nat. Sci. Phila. 1864, p. 66 (Jamaica).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 358 (1866).—LAWR. Ann. Lyc. N. Y. VIII, p. 98 (1867) (Sombrero).—GUNDL. J. f. O. 1875, p. 332 (Cuba).—LAWR. Pr. U. S. Nat. Mus. I, p. 67 (1878) (Dominica); *ib.* p. 197 (St. Vincent); *ib.* p. 238 (Antigua); *ib.* p. 241 (Barbuda); *ib.* p. 276 (Grenada); *ib.* p. 461 (Gaudeloupe).—GUNDL. Anal. Soc. Esp. Hist. Nat. VII, p. 381 (1878) (Porto Rico).

Charadrius marmoratus LEMB. Aves Cuba, p. 105 (1850).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 308 (1860) (Cuba).

Charadrius virginiacus ALBRECHT, J. f. O. 1862, p. 205 (Jamaica).

Charadrius pluvialis SUNDEV. Oefv. K. Vet. Akad. For. 1869, p. 588 (St. Bartholomew).

Charadrius pluvialis americanus SUNDEV. Oefv. K. Vet. Akad. For. 1869, p. 602 (Porto Rico).

Charadrius fulvus var. *virginiacus* CORY, Bds. Bahama I. p. 145 (1886).

Antilles in Winter.

Charadrius squatarola (LINN.).

Tringa squatarola LINN. Syst. Nat. I, 10th ed. p. 149 (1758); *ib.* 12th ed. p. 252 (1766).

Tringa helvetica LINN. Syst. Nat. I. p. 250 (1766).

Vanellus squatarolus D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 242 (1840).

Squatarola helvetica GOSSE, Bds. Jam. p. 333 (1847).—BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 121 (1859) (Bahamas).—ALBRECHT, J. f. O. 1862, p. 205 (Jamaica).—MARCH, Pr. Acad. Nat. Sci. Phila. 1864, p. 66 (Jamaica).—GUNDL. Repert. Fisico-Nat Cuba, I, p. 358 (1866); *ib.* J. f. O. 1875, p. 232 (Cuba).—LAWR. Pr. U. S. Nat. Mus. I, p. 197 (1878) (St. Vincent).—GUNDL. Anal. Soc. Esp. Hist. Nat. VII, p. 380 (1878) (Porto Rico).—CORY, Bds. Bahamas I. p. 144 (1880).—A. & E. NEWTON, Handb. Jamaica, p. 115 (1881).—CORY, List Bds. W. I. p. 25 (1885).—WELLS, List Bds. Grenada, p. 7 (1886).

Charadrius helveticus BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 308 (1860) (Cuba).

Found in winter in the Bahamas, Cuba, Jamaica, Porto Rico, St. Vincent, and Grenada.

GENUS Ægialitis BOIE.

Ægialitis BOIE, Isis, 1822, p. 558.

Ægialitis vocifera (LINN.).

Charadrius vociferus LINN. Syst. Nat. I, 10th ed. p. 150 (1758).—D'ORB. in La Sagra's Hist. Nat. Cuba, Ois. p. 246 (1840).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 308 (1860) (Cuba).—SUNDEV. Oefv. K. Vet. Akad. For. 1869, p. 602 (Porto Rico).

Ægialitis vociferus GOSSE, Bds. Jam. p. 330 (1847).—ALBRECHT, J. f. O. 1862, p. 205 (Jamaica).—MARCH, Pr. Acad. Nat. Sci. Phila. 1864, p. 66 (Jamaica).—CORY, Bds. Bahama I. p. 145 (1880); *ib.* Bds. Haiti & San Domingo, p. 141 (1885); *ib.* List Bds. W. I. p. 25 (1885).

Oxyechus vociferus GUNDL. J. f. O. 1856, p. 424 (Cuba); *ib.* Repert. Fisico-Nat. Cuba, I, p. 359 (1866); *ib.* J. f. O. 1875, p. 333 (Cuba); *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 382 (1878) (Porto Rico).

Ægialites vociferus SALLÉ, P. Z. S. 1857, p. 236 (San Domingo).—BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 121 (1859) (Bahamas).—NEWTON, Ibis, 1860, p. 307 (St. Thomas).

Charadrius (*Ægialitis*) *vociferus* BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 97 (1867) San Domingo).

Ægialitis vocifera A. & E. NEWTON, Handb. Jamaica, p. 115 (1881).

Oxychecus vociferus WELLS, List Bds. Grenada, p. 7 (1886).

Recorded from the Bahamas and Greater Antilles.

Ægialitis wilsonia (ORD).

Charadrius wilsonius ORD, ed. Wils. IX, p. 77 (1825).—LEMB. Aves Cuba, p. 106 (1850).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 308 (1860) (Cuba).

Ægialitis wilsonius BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 121 (1859) (Cuba).

Ægialitis wilsonius CASSIN, Pr. Acad. Nat. Sci. Phila. 1860, p. 378 (St. Thomas).—MARCH, Pr. Acad. Nat. Sci. Phila. 1864, p. 66 (Jamaica).—CORY, Bds. Bahama I. p. 147 (1880); *ib.* Bds. Haiti & San Domingo, p. 143 (1885); *ib.* List Bds. W. I. p. 25 (1885).

Ochthodromus wilsonius GUNDL. Repert. Fisico-Nat. Cuba, I, p. 359 (1866); *ib.* J. f. O. 1874, p. 313 (Porto Rico); *ib.* 1875, p. 333 (Cuba); *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 381 (1878) (Porto Rico).

Ægialitis wilsonia A. & E. NEWTON, Handb. Jamaica, p. 115 (1881).

Common in the Bahamas and Greater Antilles.

Ægialitis semipalmata (BONAP.).

Charadrius semipalmatus "BP. Obs. Wils. No. 219 (1825)."—LEMB. Aves Cuba, p. 107 (1850).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 308 (1860) (Cuba).—SUNDEV. Oefv. K. Vet. Akad. For. 1869, p. 588 (St. Bartholomew); *ib.* p. 602 (Porto Rico).

Ægialitis semipalmata GOSSE, Bds. Jam. p. 333 (1847).—MARCH, Pr. Acad. Nat. Sci. Phila. 1864, p. 66 (Jamaica).—SCL. P. Z. S. 1876, p. 14 (Santa Lucia).—LAWR. Pr. U. S. Nat. Mus. I, p. 197 (1878) (St. Vincent); *ib.* p. 241 (Barbuda); *ib.* p. 261 (Guadeloupe).—ALLEN, Bull. Nutt. Orn. Club, V, p. 169 (1880) (Santa Lucia).—A. & E. NEWTON, Handb. Jamaica, p. 115 (1881).—CORY, Auk, III, p. 502 (1886) (Grand Cayman).

Ægialitis semipalmatus BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 121 (1859) (Bahamas).

Ægialeus semipalmatus GUNDL. Repert. Fisico-Nat. Cuba, I, p. 359 (1866); *ib.* J. f. O. 1875, p. 335 (Cuba); *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 384 (1878) (Porto Rico).

Ægialitis semipalmatus GUNDL. J. f. O. 1862, p. 88 (Cuba).—ALBRECHT, J. f. O. 1862, p. 205 (Jamaica).—LAWR. Ann Lyc. N. Y. VIII, p. 100 (1867) (Sombrero).—CORY, Bds. Bahama I. p. 148 (1880); *ib.* Bds. Haiti & San Domingo, p. 144 (1885); *ib.* List Bds. W. I. p. 25 (1885).—TRISTRAM, Ibis, 1884, p. 168 (San Domingo).

Ægialites semipalmata WELLS, List Bds. Grenada, p. 7 (1886).

Abundant in winter in many parts of the West Indies. Recorded from Bahamas, Cuba, Jamaica, Haiti, San Domingo, Porto Rico, Santa Lucia, St. Vincent, Barbuda, Gaudeloupe, St. Bartholomew, Sombrero, Grenada, and Grand Cayman.

Ægialitis nivosa CASS.

Ægialitis nivosa CASSIN, in Baird's Bds. N. Am. p. 696 (1858).

Ægialitis tenuirostris LAWR. Ann. Lyc. N. Y. VII, p. 455 (1862) (Cuba).

Ægialeus tenuirostris GUNDL. Repert. Fisico-Nat. Cuba, I. p. 359 (1866); *ib.* J. f. O. 1875, p. 336 (Cuba).
Ægialitis nivosus CORY, List Bds. W. I. p. 25 (1885).

Accidental in Cuba.

Ægialitis meloda (ORD).

Charadrius melodus ORD, ed. Wils. VII, p. 71 (1824).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 308 (1860) (Cuba).
Ægialitis melodus GOSSE, Bds. Jam. p. 330 (1847).—SCL. P. Z. S. 1861, p. 80 (Jamaica).—GUNDL. J. f. O. 1862, p. 88 (Cuba).—ALBRECHT, J. f. O. 1862, p. 205 (Jamaica).—CORY, Bds. Bahama I. p. 148 (1880); *ib.* List Bds. W. I. p. 25 (1885).
Ægialites melodus BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 121 (1859) (Bahamas).
Ægialeus melodus GUNDL. Repert. Fisico-Nat. Cuba, I, p. 359 (1866); *ib.* J. f. O. 1075, p. 386 (Cuba); *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 385 (1878) (Porto Rico).

Winter visitant to the Bahamas and Greater Antilles.

FAMILY HÆMATOPODIDÆ.

GENUS Hæmatopus LINN.

Hæmatopus LINNÆUS, Syst. Nat. I, 10th ed. p. 152, 1758; *ib.* 12th ed. p. 257, 1766.

Hæmatopus palliatus TEMM.

Hæmatopus palliatus TEMM. Man. d'Orn. II, p. 532 (1820).—LEMB. Aves Cuba, p. 104 (1850).—GUNDL. J. f. O. 1856, p. 423 (Cuba).—BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 121 (1859) (Bahamas); *ib.* BREWER, p. 308 (1860) (Cuba).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 358 (1866).—SUNDEV. Oefv. K. Vet. Akad. For. 1869, p. 588 (St. Bartholomew).—GUNDL. Anal. Soc. Esp. Hist. Nat. VII, p. 379 (1878) (Porto Rico).—CORY, Bds. Bahama I. p. 150 (1880); *ib.* Bds. Haiti & San Domingo, p. 145 (1885); *ib.* List Bds. W. I. p. 25 (1885).

Records of the occurrence of this species in the Bahamas, Cuba, Haiti, San Domingo, Porto Rico, and St. Bartholomew.

FAMILY APHRIZIDÆ.

GENUS Arenaria BRISS.

Arenaria BRISSON, Orn. V, p. 132, 1760.

Arenaria interpres (LINN.).

Tringa interpres LINN. Syst. Nat. I. 10th ed. p. 148 (1758); *ib.* 12th ed. p. 248 (1766).

Strepsilas interpres GOSSE, Bds. Jam. p. 333 (1847).—LEMB. Aves Cuba, p. 100 (1850).—BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 121 (1859) (Bahamas); *ib.* BREWER, p. 308 (1860) (Cuba).—ALBRECHT, J. f. O. 1862, p. 205 (Jamaica).—MARCH, Pr. Acad. Nat. Sci. Phila. 1864, p. 66 (Jamaica).—GUNDL. Repert. Fisico-Nat. Cuba I, p. 357 (1866).—LAWR. Ann. Lyc. N. Y. VIII, p. 100 (1867) (Sombrero).—SUNDEV. Oefv. K. Vet. Akad. For. 1869, p. 588 (St. Bartholomew); *ib.* p. 602 (Porto Rico).—LAWR. Pr. U. S. Nat. Mus. I, p. 67 (1878) (Dominica); *ib.* p. 197 (St. Vincent).—GUNDL. J. f. O. 1875, p. 331 (Cuba); *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 379 (1878) (Porto Rico).—CORY, Bds. Bahama I. p. 151 (1880).—A. & E. NEWTON, Handb. Jamaica, p. 115 (1881).—TRISTRAM, Ibis, 1884, p. 168 (San Domingo).—CORY, List Bds. W. I. p. 25 (1885).—WELLS, List Bds. Grenada, p. 7 (1886).

Arenaria interpres CORY, Auk, III, p. 502 (1886) (Grand Cayman).

Bahamas and Antilles in winter.

FAMILY RECURVIROSTRIDÆ.

GENUS Himantopus BRISS.

Himantopus BRISSON, Orn. V, p. 33, 1760.

Himantopus mexicanus (MULL.).

Charadrius mexicanus MÜLL. Syst. Nat. Suppl. p. 117 (1776).

Himantopus nigricollis GOSSE, Bds. Jam. p. 386 (1847).—LEMB. Aves Cuba p. 102 (1850).—A. & E. NEWTON, Ibis, 1859, p. 258 (St. Croix).—BRYANT, Pr. Bost. Soc. Nat. Hist. VII, p. 121 (1859) (Bahamas); *ib.* BREWER, p. 308 (1860) (Cuba).—MARCH, Pr. Acad. Nat. Sci. Phila. 1864, p. 67 (Jamaica).—SUNDEV. Oefv. K. Vet. Akad. For. 1869, p. 602 (Porto Rico).—LAWR. Pr. U. S. Nat. Mus. I, p. 197 (1878) (St. Vincent); *ib.* p. 238 (Antigua); *ib.* p. 242 (Barbuda).—CORY, Bds. Bahama I. p. 153 (1880).—A. & E. NEWTON, Handb. Jamaica, p. 115 (1881).—CORY, List Bds. W. I. p. 26 (1885).

Macrotarsus nigricollis GUNDL. J. f. O. 1856, p. 422 (Cuba); *ib.* Repert. Fisico-Nat. Cuba, I, p. 357 (1866); *ib.* J. f. O. 1874, p. 113 (Porto Rico); *ib.* Anal. Soc. Esp. Hist. Nat. VII, p. 377 (1878) (Porto Rico).

Himantopus mexicanus SALLÉ, P. Z. S. 1857, p. 237 (San Domingo).—BRYANT, Pr. Bost. Soc. Nat. Hist. XI, p. 97 (1867) (San Domingo).—CORY, Bds. Haiti & San Domingo, p. 146 (1885).

Common in the Bahamas and Antilles.

GENUS **Recurvirostra** LINN.

Recurvirostra LINNÆUS, Syst. Nat. I, 10th ed. p. 151, 1758.

Recurvirostra americana GMEL.

Recurvirostra americana GMEL. Syst. Nat. I, p. 693 (1788).—GOSSE, Bds. Jam. p. 387 (1847).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 308 (1860) (Cuba).—GUNDL. J. f. O. 1862, p. 88 (Cuba).—ALBRECHT, J. f. O. 1862, p. 206 (Jamaica).—MARCH, Pr. Acad. Nat. Sci. Phila. 1864, p. 67 (Jamaica).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 357 (1866); *ib.* J. f. O. 1875, p. 330 (Cuba) —A. & E. NEWTON, Handb. Jamaica, p. 115 (1881).—CORY, List Bds. W. I. p. 26 (1885).

Recorded from Cuba and Jamaica.

(*To be continued.*)

A NEW RACE OF THE SHARP-TAILED SPARROW (*AMMODRAMUS CAUDACUTUS*).

BY JONATHAN DWIGHT, JR.

SEVERAL years ago I obtained in New Brunswick, near the head of the Bay of Fundy, three Sparrows that I labelled *Ammodramus caudacutus*, as a matter of course. They lay unnoticed in my collection until one day last summer, when I was struck by their faded and faintly streaked appearance as compared with New York specimens at the same season. My suspicions were aroused, and during the summer and fall, which I was able to spend in the same locality, I obtained a series of these birds showing so clearly all changes of plumage that I decided to investigate as much other material as I could gather with the help of kind friends. My thanks are due to Messrs. J. A. Allen, Montague Chamberlain, H. W. Henshaw, Robert Ridgway, Geo. B. Sennett, and Dr. A. K. Fisher, for the large series of Sharp-tailed Sparrows now before me,—114 specimens in all. It confirms me in the belief that my birds represent a good geographical race, which forms the connecting link between true *caudacutus* and the inland race *nelsoni*, and it shows, moreover,

that in autumn all three forms are found scattered along the Atlantic coast or near it, *nelsoni* occurring infrequently as far north as Cambridge, Mass., true *caudacutus* as far as Portsmouth, N. H., and the new form still farther north. I have no material from farther south than South Carolina, although Sharp-tails are known to occur in the Gulf States, and very likely all three races may be found there at the proper season. I propose naming the northern race

Ammodramus caudacutus subvirgatus, subsp. nov. ACADIAN SHARP-TAILED SPARROW.

SUBSP. CHAR.—Similar in size and coloring to *A. caudacutus* but paler and much less conspicuously streaked beneath with pale greenish-gray instead of black or deep brown. Bill averages smaller. Compared with *nelsoni* it is much paler and grayer, generally larger and with a longer bill.

Adult ♂ in breeding plumage (No. 1261, Hillsborough, Albert Co., New Brunswick, July 19, 1886; J. Dwight Jr.):—Above ashy-gray tinged with olive, the dorsal feathers, scapulars, and three innermost secondaries or tertials largely brownish-black edged with whitish. Greater and middle wing-coverts ashy, with a blackish subterminal spot along the shaft of each feather. Primaries and secondaries brown, edged with greenish-gray fading to white on first primary. Broad superciliary and maxillary stripes pale buff, whitish above the eye, and orange tinged where they meet at a dark brown spot (the extension of a post-ocular streak) just posterior to the ashy auriculars. Bordering the superciliary stripes the head is pale yellowish-brown mixed with black streaks and divided by an ashy-gray median stripe which extends down to and over the sides of the neck in a sort of collar, tinged on the hind neck with pale orange-brown. Faint spot above and below the eye and rictal streak dusky; sides of throat with ashy bridle. Jugulum, sides, and flanks faintly suffused with buff and lightly streaked longitudinally with pale greenish-gray, darker on flanks, the streaking losing itself in the dull white of the breast and sides of the abdomen. Rest of underparts grayish-white. Edge of wing pale lemon. Tail ashy, dusky along shafts of feathers and faintly barred. Upper tail-coverts streaked with dusky. Bill bluish black, under mandible bluish-slate, pinkish at base; tomia whitish. Feet purplish-flesh. Iris dark hazel. Wing,* 59.4; tail, 48.8; tarsus, 20.6; middle toe and claw, 20.8; bill from nostril, 8.6.

Adult ♀ in breeding plumage (No. 1239, same locality and collector, July 15, 1886):—Resembling closely the male but with richer yellow-buff, orange tinged across the jugulum and about the head, and with secondaries, tertials, and wing-coverts conspicuously edged with pale russet in-

*All measurements in millimeters.

stead of grayish. Wing, 54.1; tail, 44.7; tarsus, 19.8; middle toe and claw, 21.3; bill from nostril, 8.9.

Adult ♂ and ♀ in autumn (Nos. 1500, ♂, and 1502, ♀, same locality and collector, Sept. 30, 1886):—Coloring everywhere richer, grayer, and greener than in breeding dress, but streaking fainter and grayer. Above rich greenish-gray, the dorsal feathers and scapulars greenish-brown (instead of nearly black), flecked with dusky, and edged with delicate pearl-gray (instead of whitish). Tertials, secondaries, and wing-coverts russet, edged like the female in breeding dress. Primaries nearly black, edged exteriorly with bright olive-green nearly to tips, except first primary, which is edged with white. The brown of the head and the gray of the median line and neck are richer, and the cervical collar greener. Superciliary stripe intensified into a yellow spot on the eye-brow. A deep greenish wash above the eye extends backward and loses itself in the superciliary stripe. The buff of the breast and sides is brighter, and the streaking is pale lead gray in broader stripes. Edge of wing bright yellow. Lesser wing-coverts and alulæ edged with yellowish-green, the longest feather of the alula dusky, edged with white.

Young of the year:—Identical in plumage with autumn adults, but with slightly smaller bill.

Young, first plumage (No. 1240 ♂, same locality and collector, July 15, 1886):—General color chestnut-buff, darker above and variegated with black. Traces of two or three faint dusky streaks on sides. Dorsal feathers, tertials, wing-coverts, and stripes on the head, black with chestnut-buff edging. Primaries and secondaries black, faintly edged with ashy. Traces of dusky auriculars and post-ocular streak. Tail similar to adult but edged with buff. This plumage is worn until the autumn dress of the adult is assumed.*

HABITAT. Marshes of southern New Brunswick, Prince Edward Island, and probably Nova Scotia, and southward in migration along the Atlantic coast.

Measurements. Twenty-five ♂ and thirteen ♀, all adults, show the following averages and extremes: Length,† ♂ 142.5 (135.9-147.3); ♀ 138.4 (135.9-141.); extent† ♂ 201.7 (193.-209.6); ♀ 192.3 (190.5-195.6); wing, ♂ 58.2 (55.6-59.7); ♀ 54.6 (52.8-56.1): tail, ♂ 50.5 (47.2-53.3); ♀ 46.7 (42.9-50.3): tarsus, 20.8 (19.8-21.6): bill from feathers, 11.7 (10.4-12.5), from nostril, 8.8 (8.1.91), depth at nostril, 5.3, width, 3.8.‡

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* Compare first plumage of *A. caudacutus* (Brewster, Bull. N. O. C., III, 1878, 119). Seven specimens that I have examined all show more or less distinct streaking.

† Fresh specimens—11 males, 4 females.

‡ The following measurements will prove useful for comparison: *A. caudacutus*, 34 adults: Length, male, 149.1 (144.8-157.5); female, 135.9 (129.5-142.2): extent, male, 205.7 (203.2-213.4); female, 191 (177.8-200.7): wing, male, 58.7 (57.2-62.); female, 55.6 (53.6-57.4): tail, male, 48.5 (43.9-52.1); female, 47 (44.5-50.3): tarsus, 20.6 (19.3-21.8): bill from feathers, 12.2 (11.4-13.2), from nostril, 9.4 (8.9-10.2), depth at nostril, 5.3,: width, 4.1.

A. c. nelsoni, 24 adults: Length, male, 140.2 (134.6-144.8); female, 135.9 (134.6-137.2)

This new form is not likely to be confounded with true *caudacutus*, for, so far as my material shows, the palest streaked *caudacutus* in any plumage may be recognized at a glance by being more distinctly streaked than any specimen of *subvirgatus*. More material from suitable localities will no doubt show intermediates, but as yet I have seen no connecting links at this end of the chain. At the other end, however, *subvirgatus* passes gradually into *nelsoni*, as a series of fall specimens clearly shows. I have been unable to obtain any spring *nelsoni* for comparison, but judging by the changes of plumage in the other two forms, *nelsoni* ought to be a much brighter and more richly colored bird than *subvirgatus* in like plumage. This is the case with fall specimens, and the points of difference are usually well defined. Compared with the new form at this season, *nelsoni* is characterized by the rich brown of the back with white edging of the feathers, instead of greenish gray with pearl-gray edging; by the deeper brown of the head; by the richer russet of the wing-coverts and inner secondaries, and broader rusty edging of the tertials as compared with whitish or buff; by the brighter orange-buff of the jugulum in sharp contrast to a whiter breast and abdomen than *subvirgatus* shows; by distinct (sometimes indistinct, however,) narrow streaks of black or dusky on jugulum and sides in place of broad indistinct gray stripes; by smaller size; by a bill not over 8.4 mm., and generally by a shorter wing.

It is difficult to indicate by description differences that are obvious with specimens in hand, but a preponderance of the characters just given ought to determine without actual comparison all save a few perplexing intermediates. Measurements will often aid in determining these, but with a species like the Sharp-tailed Sparrow that soon wears its plumage ragged and disreputable among the coarse grasses it frequents, measurements, particularly of the tail, are not altogether reliable. The length of bill in *nelsoni* seems to be a pretty good character, as *subvirgatus* (except in young of the year) seldom has as short a bill. To be sure, the differences are slight but quite noticeable to the eye, nevertheless. Although the largest bill of *nelsoni* never equals

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extent, male, 198.9 (193.-203.2); female, 193 (190.5-195.6): wing, male, 56.1 (53.9 57.7); female, 54.4 (52.1- 56.4): tail, male, 48.3 (45.5-52.1); female, 47.5 (44.5-50.3): tarsus, 20.1 (19.1-20.8): bill from feathers, 10.7 (10.2-11.2), from nostril, 8.1 (7.6-8.4) depth at nostril, 5.1, width, 3.8.

the smallest bill of *caudacutus*, the bills of the three forms intergrade, and it is the short-billed specimens of the new form that are likely to give the most trouble. I notice that nearly all *nelsoni* have lighter colored bills (especially the lower mandible, which is buff) than the majority of specimens of the new race, which generally has both mandibles slaty, but I fear no dependence can be placed upon this fact.

A series of Sharp-tails obtained in the autumn at Sing Sing, N. Y., by Dr. Fisher, is of special interest. From typical *nelsoni*, as rich in color as those obtained in Illinois, these birds show a gradual and complete gradation into *subvirgatus*, the brown of the head and back, and deep buff of the jugulum becoming paler, the white edging of the dorsal feathers passing into gray, and the streaking of the jugulum fading into gray, until the imaginary line dividing all subspecies has been passed and the characters of *subvirgatus* are seen to predominate.

It is to be regretted that the specimens from which I have selected my spring types are in worn and faded plumage, but comparing them with four specimens taken respectively at Point Judith, R. I., April 29, N. Madison, Conn., June 9, Cambridge, Mass., May 31, and Hampton, N. B., June 21, and with two labelled New Jersey, I find them almost identical in coloring and amount of wear. I notice that my summer males are generally paler above and less buffy beneath than the females, although a few of the latter are paler than the brightest males. Can it be that the males expose themselves more to the sun for the sake of singing to their mates, who assume the household cares of a shady nest amid the long grass?

The N. Madison and the Cambridge specimens just referred to have the shortest bills (only 8.1 mm.) of any *subvirgatus* in the series at hand, and the latter has been recorded as *nelsoni*. (Henshaw, Auk, III, 1886, 486.) It is labeled "♂ juv.," which may, perhaps, account for the short bill, and the buff beneath is brighter than the average of the new race, but the pale coloring of the upper parts is identical with my New Brunswick birds. The N. Madison specimen, an adult female, is undoubtedly of the new race and a trifle paler than the Cambridge bird. These two, taken in connection with other short-billed specimens obtained at Cambridge and at Sing Sing in the fall, suggest the inquiry whether some inland marshes may not

furnish a regular supply of connecting links between *nelsoni* and the new race, which is certainly more closely related to *nelsoni* than to true *caudacutus*. It may not be out of place to say here that the latter in fall plumage is more heavily and broadly streaked than in the spring, the orange-buff about the head and on the jugulum and sides, much intensified, but otherwise very much like the spring bird. Its long bill alone (8.9-10.2 mm.) will distinguish it from *nelsoni*, and the streaking from *subvirgatus*.

Strange to say, *nelsoni* was originally described by Mr. Allen (Proc. Bost. Soc. Nat. Hist., XVII, Mar. 1875), as having "a longer and slenderer bill" than *caudacutus*, an error that is repeated in the latest edition of Dr. Coues's 'Key'. The bird described was in fall plumage and the description of this clearly indicates the character of *nelsoni* at that season.

I discuss the subject of Sharp-tails at length because it has been one involved in some obscurity, and because several records have been made that will no doubt now require to be revised. It was not until 1877 that this species was recorded as far east as Maine, Mr. Brown having found it at Scarboro' in October, 1876 (Bull. N. O. C., II, 1877, 27 and 98), while Mr. Brewster recorded it from Tignish, P. E. I., August 2 and 3, 1876 (*Ibid.* II, 1877, 28). I have seen some of the Tignish specimens, which are of course faded *subvirgatus*. It would be interesting to know what the Scarboro' specimens were. One taken there October 13, 1879, and now before me, is *subvirgatus*. Some remarks by Dr. Brewer (*Ibid.*, III, 1878, 48 and 147) are interesting, for *A. caudacutus* is spoken of as abundant on St. Andrew's Bay. As this is partly in New Brunswick, the birds found there may prove to be *subvirgatus*. In 1880 Mr. Brown records *caudacutus* as breeding at Scarboro' (*Ibid.*, V, 1880, 52). Which race was it? I will also call attention to an article by Dr. Brewer in the 'Oölogist'* for 1879, where reference is made to the northern range of the Sharp-tails (Bull. N. O. C.,

*The 'Oölogist' for April, 1879 (Bull. N. O. C., VI, 1881, 47, Minor Ornithological Paper No. 59), is incorrect in stating that *A. caudacutus* was found breeding near Boston. It was a complicated case of misunderstanding and wrong identification which I will not discuss here, but as a matter of fact the birds breeding were nothing more nor less than *A. s. savanna*. The salt meadow referred to was on the 'Back Bay', and was fairly haunted with egg collectors. I visited it several times, and the birds found breeding there were Savannah Sparrows and *not* Sharp-tails.

VI, 1881, 47). The first record for New Brunswick is made by Mr. Chamberlain who, with Messrs. Purdie and Daniel, obtained five individuals at Hampton, June 21, 1881 (*Ibid.*, VII, 1882, 104 and 122). One of these is now before me,—an undoubted *subvirgatus*. The last record I shall refer to is Mr. Henshaw's (Auk, III, 1886, 486) of three specimens of *nelsoni* taken at Cambridge, Mass. That of May 31, I have assigned on a previous page to the ranks of *subvirgatus;* the other two, which I have also examined, were taken October 7, and are undoubted *nelsoni*. Mr. Henshaw suggests that "those having Sharp-tailed Finches in their collections will do well to examine their series thoroughly." This is excellent advice to follow, and I earnestly hope that the new subspecies I propose will solve difficulties that have heretofore presented themselves.

The apparent scarcity of spring examples of this new variety suggests the idea (probably erroneous) that it follows an inland route of migration at this season, especially since its breeding haunts are practically fresh water and inland meadows. One accustomed to the salt marshes where true *caudacutus* makes its home would never dream of finding its northern representative inhabiting fields where the grass is knee deep, and where the Bobolink and the Savannah Sparrow find it dry enough to make their nests. And yet this is the character of the marshes along the Petitcodiac River where I have found the birds in considerable numbers. The Petitcodiac is one of the rivers emptying into the Bay of Fundy when the tide is running out. The Bay of Fundy appears to empty into these rivers when the tide is running in, and long stretches of red mud are rapidly covered with the incoming water which, rising forty feet and more, has acquired world-wide renown, especially in the geographies. The marshes were no doubt overflowed at one time by the tide, but are now protected by low dikes, and drained at low tide by numerous narrow ditches, so concealed by overhanging grass that the unwary collector is liable to disappear when he least expects it. The river, more than a mile in width at Hillsborough, is bordered by the marshes, which often extend over half a mile back from the dikes. In the midst of such surroundings I found the New Brunswick Sharp-tails last summer. They were abundant in certain spots, but not easy to find on account of their retiring dispositions. Even their song is inaudible at the dis-

tance of a few yards, and at its best is suggestive of the bird's being choked in the attempt. It resembles, as nearly as I can represent it, *l'ĭc—sē-ē-ē-ē-oop*, and the gasping *sē-ē-ē-ē* is usually all that is heard unless one is very close to the soloist. It is usually delivered from the top of a weed, where, as the bird sits crouching, he presents an absurd appearance of ill-concealed fright. Sometimes he springs up into the air, particularly towards evening, and setting his wings floats down into the grass fairly gushing with song—such as it is. This performance may be compared with that of *A. maritimus*, for the songs of the two birds are modelled after the same pattern. But I must not take up any more space in describing habits that, so far as I have observed, are little different from those of true *caudacutus*. I was unable to discover any nests. I think, however, that two broods may be reared, as, on my arrival July 15, young were already on the wing, and it was almost impossible to find any females. I was not on the ground during August, but in September the birds were rather scarce. On September 30 they appeared in numbers, probably from some more northern locality, and on October 4 I saw the last of them.

I imagine they are found in their present environment because no salt marshes happen to be convenient. I frequently found them along a swampy brook fully a mile from salt water, fraternizing with Swamp Sparrows and Maryland Yellow-throats among the alder bushes. The locality on the Kenebecasis River, where Mr. Chamberlain obtained his specimens, is of similar character, and he informs me that the bird has been taken at Sackville, where the marshes are similar to, but much more extensive than those of the Petitcodiac. There is every reason to suppose that the bird is found in neighboring localities, but at present I cannot prove it. If I have been successful in introducing to notice a bird that has been fairly in our midst and yet not recognized as a stranger, I shall feel that my efforts have not been in vain, and I hope that this stranger, now that he presents his proper credentials, may not prove an unwelcome guest.

OBSERVATIONS IN WESTERN NORTH CAROLINA MOUNTAINS IN 1886.

BY GEORGE B. SENNETT.

THE locality visited comprises Mitchell and Yancey Counties, North Carolina, and a small portion of Carter County in Tennessee. The greater part of the observations were made from three points in Mitchell County, N. C., viz., Bakersville, Cranberry, which is close to Tennessee line, and Roan Mountain, the summit of which marks the dividing line between the two States. Frequently a bird was flushed in one State and picked up in the other.

The altitudes varied from 2600 feet, the lowest, at Bakersville, to 6400 feet, the highest point of Roan Mountain; that of Cranberry, where I made the longest stay, being 3200 feet above the sea level. The country is densely wooded to the very tops of the peaks, and in general characteristics is so similar to that of Mount Mitchell and vicinity, as described by Mr. Brewster in 'The Auk' (Vol. III, No. 1, pages 97 and 98), that it is desirable to mention only two points of difference. First, the country in the immediate vicinity of Roan Mountain has not as many clearings as has that about the lower slopes of the Black Mountains some thirty or more miles to the south. Secondly, the summit of Roan has extensive table-lands, on which three kinds of vegetation are found, each growing in separate tracts. This vegetation includes groves of balsams (the name used by the inhabitants for spruce and fir trees); thickets of rhododendrons, which are most luxuriant and plentiful here; and tracts of the coarse, thick mountain grass, which grows in immense patches of from one to one hundred acres in extent.

The observations were made during two trips; the first extended from April 15 to 29 inclusive; the second from June 26 to September 4 inclusive. Of the seventy species of birds observed and noted I can claim but eight of them as additions to the lists for this State heretofore given in 'The Auk' by Messrs. Brewster and Batchelder (see Vol. III, Nos. 1, 2 and 3). A few things which are perhaps of interest in reference to the birds already recognized as of this region may also be presented here.

The following eight species have not before been noted from these mountains:

Totanus solitarius. SOLITARY SANDPIPER.—Saw several isolated pairs in April, July, and August, in altitudes from 2800 feet to 3500 feet; only once did I see three together, at the base of Roan Mountain, the altitude being 3200; one of these I shot and preserved.

Buteo lineatus. RED-SHOULDERED HAWK.—Several seen about Cranberry, 3200 feet altitude; and one on Elk River, 3000 feet altitude. Breeds.

Falco columbarius. PIGEON HAWK.—Saw one on April 20, near Toe River, Yancey County.

Molothrus ater. COWBIRD.—On April 23, at Bakersville, saw several in company with Redwings in an orchard; again in August saw a few at Cranberry, but they were not common and none were observed in high altitudes.

Chondestes grammacus. LARK-SPARROW.—Shot a full grown young-of-the-year of this species on August 9 at Cranberry. When shot it was alone in the top of an aged apple-tree; altitude 3000 feet. The taking of this bird so far from its usual habitat was the most surprising event of the summer. Although no others were identified, it is only natural to suppose that this bird was reared not very far from where it was taken.

Zonotrichia leucophrys. WHITE-CROWNED SPARROW.—Only noticed two or three on April 23, on hills near Bakersville, and again on April 24, while making the ascent of Roan Mountain.

Dendroica palmarum hypochrysea. YELLOW PALM WARBLER.—Two shot and one female preserved; taken on the hills south of Bakersville on April 19; they were in a clump of young trees along with two or three Grass Finches (*Poocætes gramineus*); altitude 3000 feet.

Regulus calendula. RUBY-CROWNED KINGLET.—A pair of these birds, in immature plumage, was shot at Plum Tree, Mitchell County, April 18, when in company with several more, and the male preserved. Shot several in Yancey County on April 21; altitude 3500 feet.

A partial record of my observations of certain birds already noted as of this locality may be interesting.

Philohela minor. WOODCOCK.—I saw a pair of these birds on the summit of Roan in a clump of balsams; the overflow from numerous springs which had their sources at this spot formed an open adjoining marsh of several acres; altitude fully 6000 feet. One or two pairs have been known to breed here every year. Shot a pair of birds of the year at Cranberry, August 27.

On April 27, I saw with my field glass a fine adult *Buteo borealis* (Red-tailed Hawk) sail up the side of Pizzle Mountain, four miles east of Bakersville, and alight on a tree near the summit; altitude fully 4500 feet. This is the highest elevation in which any were observed.

Falco sparverius. SPARROW HAWK.—Quite common near Bakersville; a pair found breeding in a large chestnut tree at an altitude of 3000 feet on the 23d of April.

Trochilus colubris. RUBY-THROATED HUMMINGBIRD.—These were seen frequently on Roan Mountain in June and July; altitude 6300 feet. While at Cranberry, in August, altitude 3200 feet, they were more numerous than I had ever seen them elsewhere.

Two Hairy Woodpeckers were taken; one was shot in a clump of balsams on the top of Roan Mountain, altitude 6300 feet, July 13, and the other at Cranberry, altitude 3000 feet, August 13; both are females, and although rather intermediate between the southern and northern forms, yet more like the southern, and I call them *Dryobates villosus audubonì.*

Dryobates pubescens. DOWNY WOODPECKER.—A female was shot on the southern slope of Roan Mountain; altitude 6100 feet.

Sturnella magna. MEADOW LARK.—One observed on the summit of Roan Mountain, April 25, at an altitude of 6300 feet.

Sphyrapicus varius. YELLOW-BELLIED WOODPECKER.—On April 25 shot a female in an opening in the balsams where timber had been cut away on the south side of Roan Mountain; altitude 6000 feet. Saw two or three more at about the same spot in July.

Melanerpes erythrocephalus. RED-HEADED WOODPECKER.—In June one was slightly wounded, but kept alive, on the top of Roan Mountain; taken at 6000 feet altitude. Only one other was seen on the summit of Roan, but in the lower altitudes of Cranberry and Yancey County they were occasionally seen.

Colaptes auratus. FLICKER.—These birds, though shy, were found as high as 5000 feet in April and August; secured several young but did not bring home an adult.

Loxia curvirostra minor. AMERICAN RED CROSSBILL.—Shot one close to the Roan Mountain Hotel, July 5; altitude 6300 feet. Saw and heard several flocks, but did not find them feeding commonly in the balsams; at Cranberry, in August, altitude 3200 feet, one or two flocks could be seen and heard daily feeding in the hemlocks.

Poocætes gramineus. VESPER SPARROW. — On April 19 I shot two females of this species on the hills south of Bakersville, in different localities, at an altitude of 3000 feet. At the same time I shot several others. An examination showed that the ovaries were undeveloped. They were fat and did not act as if they were migrating; yet they cannot be a common summer resident, for my later trip brought me to certain promising localities, but the marked white tail-feathers of this common northern bird were only conspicuous by their absence.

Junco hyemalis carolinensis. CAROLINA JUNCO.—This new variety of Black Snowbird I was prepared to see, and did find in all places above 3000 feet elevation; although not abundant at this last-named elevation, yet on the summit of Roan, at an altitude of 6300 feet, it is exceedingly abundant, outnumbering at this point all other species combined. I found them in the latter half of April when they were paired and building nests, but although many completed nests were discovered, I was not able to find any eggs up to the time (April 29) I left Roan Mountain at the close of my first trip. Although possibly at an elevation of from 3000 to

4000 feet a few sets may be found earlier, yet it is safe to say that in the mountains of North Carolina, May is the season for the first clutch of eggs. Being obliged to leave, I gave directions that a few sets with nests should be preserved for me, and on my return I not only obtained several sets laid in May, but secured additional ones of the second brood. In July, on Roan Mountain, I found both fresh-laid eggs and young in all stages; whenever the almost constantly present and low-hanging clouds would lift for an hour or so, I could deviate from the main road and find a Junco's nest. My experience told me that the first brood was generally four, but often three, while the second brood was three, and rarely four. I found these birds nesting on the ground in all sorts of places,—in the open among the grass hummocks, along the edge of a cowpath, among the rhododendrons, or myrtle tussocks (which look so much like the heather of Scotland), under the balsams, or under the deciduous trees of a lower altitude. Two nests, one of which was five and the other three feet from the ground, were found in balsam trees; and I found one nest at an altitude of two feet, in the roots of an overturned tree. Of the twenty nests and sets of eggs in my collection, no two are alike, either in size, shape, marking of eggs, or lining of nest. The nests are lined with hair of various colors, fine rootlets, red moss, and grass like that of which the body of the nest is formed. At Cranberry, in August, I found occasional pairs of adults and young of the year, but did not come across any nests. I brought back twenty-seven specimens, of all ages from the newly hatched to the adult. This number does not comprise all the specimens shot and examined, for in the lower altitudes in the spring I tried to secure typical *hyemalis;* I did not succeed in finding one. This seems to show that true *hyemalis*, which, together with *carolinensis*, winters there, does not remain as late as April 15, and therefore that the only form breeding in the mountains of Western North Carolina is *carolinensis*. That the two forms are intermingled along the Atlantic States I am led to believe on examining the series of eight males and six females in the collection of Mr. J. Dwight, Jr., of New York City. There is scarcely a typical *hyemalis* in Mr. Dwight's collection, and three males conform as closely, both in size and external characteristics, to *carolinensis* as if they had been taken on the high peaks of North Carolina. Mr. Dwight's three specimens are as follows:

No. 997, male, March 26, Rockaway Beach, L. I.; wing, 3.12; tail, 2.75; bill, .39.

No. 1002, male, April 1, Van Cortland, Westchester Co., N. Y.; wing, 3.13; tail, 2.90; bill, .40.

No. 1308, male, July 26, Albert Co., N. B.; wing, 3.07; tail, 2.80; bill, .45.

Average of 4 males, including type, of Mr. Brewster's specimens from North Carolina (see Auk, Vol. III, No. I, p. 108): wing, 3.165; tail, 2.78; bill to feathers, .435.

Average of 13 males in my collection from Roan Mountain, N. C.; wing, 3.15; tail, 2.87; bill to feathers, .41. Extremes: wing, 3.27-3.00; tail, 3.05-2.70; bill to feathers, .45-.36.

Average of *hyemalis*, 4 males from New England: wing, 3.02; tail, 2.66; bill to feathers, .405.

Since the building of the hotel on the summit of Roan Mountain, numbers of these Juncos remain there all winter. In the winter of 1885-86, although the thermometer registered 24° below zero, they were particularly numerous, feeding on the refuse from the kitchen and on the hayseed in the loft of the barn. A gentleman who had passed the winter in that bleak spot told me that on the coldest and stormiest days he could always see them, and they sometimes came into the house. When I was there in April I frequently saw as many as thirty about the kitchen door or barn-yard, and one that had flown in through the open window was caught alive for me in the dining-room. On April 29, at the close of my first visit, there were large bodies of snow and ice under the balsams where the sun could not reach, and two days after my departure there occurred a fall of snow which covered the mountain to a depth of several inches. In July it was generally wet, and the thermometer ranged between 50° and 60°, more frequently remaining in the neighborhood of from 50° to 55°.

Cardinalis cardinalis. CARDINAL GROSBEAK. — On April 29, while waiting for a team to take me down the mountain, I took my gun and two half charges of dust, and felt my way through the clouds down among the balsams on the northern slope of Roan Mountain; only a few rods from the hotel I secured and brought back a female Cardinal and a male Wren; altitude 6200 feet. Occasionally seen at lower elevations, but not abundant.

Ampelis cedrorum. CEDAR WAX-WING. — Common in July on the southern slope of Roan Mountain, among the scattered balsams where timber had been cut away; altitude 6200 feet.

Mniotilta varia. BLACK-AND-WHITE CREEPER.—On July 27, during a storm which was raging at ten o'clock in the evening, this bird flew against the window of the hotel on Roan Mountain and was caught alive. This species is common at the base of the mountain.

Galeoscoptes carolinensis. CATBIRD.—Two of this bird's nests with eggs were brought me, having been taken at Carver's Gap, Roan Mountain, at an altitude of 5400 feet.

Troglodytes hiemalis. WINTER WREN.— Common in the balsams of Roan Mountain; at all hours, rain or shine, the exquisite song of this shy bird could be heard even from the balcony of the hotel. I remember hearing four males at one time from as many different directions. I was constantly in search of their nests, and frequently saw them carrying building material, and food to their young, but the clouds, which were only absent at long intervals from the summit of the mountain, would close about me like a veil and I would be obliged to practically feel my way home again, always unsuccessful.

Certhia familiaris americana. BROWN CREEPER.—On April 24, while ascending Roan Mountain from Bakersville, on the south, saw plainly a pair of these birds building their nest in the loose bark of a tree close by a road which wound through heavy timber, at an altitude of 4500 feet.

Parus bicolor. TUFTED TITMOUSE.—Everywhere common up to about 4000 feet elevation. At Bakersville and Cranberry I seldom took a stroll without hearing the whistle of this bird or seeing it with its young.

Parus carolinensis. CAROLINA CHICKADEE.—This bird was not frequently seen, and not observed at all above 5000 feet altitude.

Regulus satrapa. GOLDEN-CRESTED KINGLET.—On July 23, shot a young of the year at an elevation of 6000 feet; it was in company with the rest of the brood and the parents. Not common.

Merula migratoria. ROBIN.—Rarely seen in the lowlands, but common on the summit of Roan Mountain, where I found two nests with eggs in the balsams; altitude 6300 feet; others were brought to me which had been taken in the woods far from any habitation.

DESCRIPTION OF A NEW *EUETHIA* FROM OLD PROVIDENCE ISLAND.

BY CHARLES B. CORY.

Euethia grandior, sp. nov.

SP. CHAR.—General appearance of *E. bicolor;* but larger, the wing is much longer, and both mandibles are black.

Adult ♂ (Type, No. 10,274, Coll. C. B. Cory):—Head, throat, breast, and upper belly black; a patch of dull yellowish white from the belly to the vent; flanks and under tail-coverts dull olive green; back and rump olive green; quills brown, edged with olive green; tail greenish above, slaty brown beneath, and showing numerous indistinct bands when held in the light; bill black.

Length, 4.50; wing, 2.45; tail, 2; tarsus, .60; bill, .40.

The great length of wing seems to be constant in sixteen specimens from Old Providence. I have compared it with forty-four examples of *E. bicolor* from other localities.

Habitat. Island of Old Providence, Caribbean Sea.

RECENT LITERATURE.

The New Canadian Ornithology.*—Decidedly the best we have is this

*The | Birds of Ontario, | Being a list of Birds observed in the Province of | Ontario, with an Account of their Habits, | Distribution, Nests, Eggs, &c., | —By— | Thomas McIlwraith, | Superintendent of the Ontario District | for the | Migration Committee of the American | Ornithologists' Union | — | Published by the Hamilton Association. | — | Hamilton: | A. Lawson & Co., Printers, 10 York Street. | — | 1886. 1 vol. 8vo. pp. 1–304, i–iv, i–iv, i–vii.

work of a veteran observer, who, if not a prolific writer, has nevertheless maintained his interest in ornithology for a quarter of a century, in the light of which experience he now treats of the birds of Ontario. Mr. McIlwraith was in the field in 1860 and 1861, when he published* notices of the birds of Hamilton, afterwards systematized in a 'List of Birds observed near Hamilton, Canada West'†, noting 241 species as a result of ten years' observation. This present work is the outcome of an address 'On Birds and Bird Matters' delivered before the Hamilton Association April 2, 1885, when the author promised to prepare a freely-annotated list of the birds of that locality. He was then busy in hunting up Canadian observers for the Migration Committee of the A. O. U., and in position to sound the depths of the ignorance of ornithology among persons fairly well informed on things in general. In due process of evolution the matter took the present shape of a systematic manual of the subject, such as would enable any one to identify the birds that should be met with in Ontario. The Hamilton Association published the address in their 'Proceedings' of one year, and the history of each species the next, the present volume being the result.

The work treats formally of upwards of 250 species (as we judge, without actually counting them), giving first a concise technical description, then the general habitat, and a formal statement of the nest and eggs, followed by local biographical items. Such a work cannot fail to prove of interest and usefulness. It places Canadian Ornithology more nearly *au courant* with the progress of the science in other parts of America, and easily advances its author to the first place in his own field. We could wish it wore a more attractive face typographically, but the sad printing, perhaps unavoidable under the circumstances, lessens the value of no scientific facts which the book presents.—E. C.

McIlwraith's Birds of Ontario.—At the request of a few of the prominent members of the A. O. U., I have prepared the following notes concerning the 'Birds of Ontario', by Thos. McIlwraith, Hamilton, Ont., pointing out and correcting some errors which have occurred in that work.

The eggs of the Bob-white are described as pure white, no mention being made of the characteristic stains of light buff which are almost invariably found.

Those of the Ruffed Grouse are buff, not cream-color, as stated.

The Marsh Hawk is said to lay white eggs "blotched or speckled with brown," but in reality its eggs are nearly always pure white, sometimes with a few spots, but probably never blotched.

Those of the Baltimore Oriole are stated to be "white, faintly tinged with blue," but no mention is made of the lilac, brown, and black spots and streakings which render this egg one of the most beautiful we have in Ontario.

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* Canad. Nat., V, 1860, pp. 387-396; VI, 1861, pp. 6-18, 129-138.

† Proc. (Comm.) Essex Inst., V, 1866, pp. 79-96.

The Red-eyed Vireo is stated to lay eggs "white .... sometimes .... a few dark spots towards the larger end." These eggs are *always* thinly spotted with black and dark brown.

The white ground color of the eggs of the Redstart is called grayish-white, to which color these eggs can lay no claim whatever.

Loon's eggs are described as "dull greenish-yellow with numerous spots of brown," while they are olivaceous brown sparingly spotted with dark brown.

The number of eggs in a set is frequently misstated, as for instance the Vesper Sparrow and the Chippy both have "Eggs, 4 to 6." In each case 3 to 4 would be more correct, five being extremely rare, and six have probably never been found in Ontario.

The nests and nesting sites are wrong in several instances, the two Grebes, Horned and Carolina, being said to lay on the "bog," the latter making a nest of "a few matted rushes on the bog." Mr. J. A. Morden and myself have examined many nests of the Carolina and some of the Horned Grebe, and can say positively that both of them build a large nest of rushes which reaches nearly or quite to the ground, and is surrounded with water from six to twelve inches deep, the nests being generally placed where the surrounding rushes are thin, so that the young have easy access to water.

"Nest, if any, in a hollow tree or cleft of rock" is accredited to the Great Horned Owl. Almost invariably they use a nest similar to that of the Red-tailed Hawk, no instance having yet come under my notice where it has used a hollow tree or cleft of rock.

Speaking of the Pewee, no mention is made of its nesting among the roots of a fallen tree, where probably half the nests in Ontario are made, this bird being quite common in the woods and numerous nests having been found in that position.

The American Merganser is stated to be "never plentiful." On the inland waters near London it is by far the most common of the Mergansers.

A lamentable error has occurred with the two White Herons, *Ardea egretta* and *A. candidissima*, the titles having evidently been misplaced. That this should have occurred seems almost impossible, but is proved by the fact the description, abundance, and even the repeated name under the heading "American Egret" belong to the Snowy Heron, and *vice versa*.

There are two instances given of the capture of the Yellow Rail in Ontario, and it is left to be inferred that those constitute its sole occurrence here. From a number of specimens taken in the marshes near the west end of Ontario I conclude that it is regular though quite rare.

The Curlew is stated to be "occasionally seen .... as an irregular visitor and not in large numbers." In suitable places it occurs regularly and in considerable numbers, and on May 24 and 25, 1887, I saw hundreds at Rondeau, where they are probably as common as anywhere on our shores.

The Pileated Woodpecker is relegated to Muskoka, except for mention of one pair which were found nesting in Middlesex County, whereas they are rather common in most of the heavy timber in the western counties, where they breed.

Both the Cowbird and the Baltimore Oriole are stated to disappear from Southern Ontario in July and August, this being noted as a strange peculiarity of these birds. A little inquiry would have disproved these ideas, as both birds are common around London through both months, and also probably in all Southern Ontario, where they breed plentifully.

The date of arrival is often wrong, for instance, the Vesper Sparrow and Chippy being credited with arriving about the end of April. My average date of arrival for a number of years, for the Vesper Sparrow is April 10, for the Chippy April 20, while for the Towhee and Field Sparrow, which are stated to arrive about the first of May, my average is April 10 and 22, respectively, the former sometimes coming late in March while snow is yet to be found.

The Grasshopper Sparrow, though stated to be casual and very rare, I have no doubt breeds in the southwest of Ontario, where I have found it in different localities, notably at Point Pelee, where it was heard singing every day in early June, and was comparatively common.

Mr. McIlwraith refers to me as the sole evidence of the occurrence of the Rough-winged Swallow, and makes the statement that I have found it breeding for the past year or two; while in 1882, in the Morden-Saunders list of the birds of Western Ontario, we stated that it "breeds in same localities as the last" (Bank Swallow), and I have found it common within a radius of twenty-five miles around London in all suitable places. He follows the reference to me by stating, "nests having been found in crevices of rocks and on beams under bridges," etc., from which one might infer that such are its habits in Ontario. This, however, is not the case, as in the large number of nests I have examined all were in holes in banks, and I have never seen these Swallows frequenting bridges at all, but always near sandbanks; and we have no rocks.

Speaking of the Black-poll Warbler, the statement is made, "The musical powers .... are not exercised in this latitude." In contradiction to this, I have never yet seen or taken a male in spring except those I have found by their song.

The Water-Thrush is said to be "quite as abundant throughout the country" as the Ovenbird, which, for the west at least, is a great error. The Ovenbird is abundant, while the Water-Thrush is not at all common, being found in almost exactly the same numbers as the Louisana Water-Thrush, but in my experience the localities frequented by the two species are exactly opposite to those stated, the Water-Thrush never being far from water, often being on the very banks of streams, while the other is found in moist high woods, water being apparently no requisite for its happiness.

With regard to the Olive-backed and Gray-cheeked Thrushes, the ratio of specimens obtained by me has been three Gray-cheeked to one Olive-

backed, which latter I have taken while singing, contrary to the statement made that while here they have only a low, soft call-note.

That so large a number of errors should have crept in is to be deplored, especially as many seem to be easily avoidable, but that the work will be of the greatest service to the class for whom it is intended cannot be doubted, many ornithologically-inclined friends having inquired anxiously for its appearance, as it was just what they needed to aid them in the study of our birds.—W. E. SAUNDERS.

Stejneger on the Species of Pardalotus.*—This paper relates especially to the forms recognized by Mr. Sharpe (Cat. Bds. Brit. Mus., X, 1885, p. 54) as *Pardalotus ornatus*, *P. assimilis*, and *P. affinis*, *assimilis* being here considered as a subspecies of *affinis*. A 'Key to the Species' of this genus is appended, of which eight and one subspecies are recognized, seven of which are represented in the collection of the National Museum.—J. A. A.

Stejneger on Two European Thrushes.—Dr. Stejneger, in a paper† of eight pages, maintains the existence in Europe of two species of Ring-Ouzel, namely, the 'Northern Ring-Ouzel' (*Turdus torquatus* auct.), and the 'Alpine Ring-Ouzel' (*Turdus alpestris* Brehm); the first a northern-breeding bird, migrating south in winter; the other supposed to breed in the high mountains of Central and Southern Europe. The two forms occur together in winter, and have been hitherto confounded by nearly all writers, although well distinguished by Brehm. He says: "It has been the unfortunate fashion to sneer at the species and subspecies of Brehm, and the simple fact that a name was established by him has been sufficient reason to ignore it altogether and to put it into the synonymy without further investigation. This is not only injustice to Brehm's honest labor and his extreme power of discrimination, but it has resulted in absolute injury to science."—J. A. A.

Stejneger on Japanese Birds.—In the 'Proceedings' of the U. S. National Museum Dr. Stejneger continues his 'Review of Japanese Birds,'‡ Part II treating of the 'Tits and Nuthatches,' and Part III of the 'Rails, Gallinules, and Coots.' In the first paper six species of *Parus* are recognized, two of *Ægithalos*, one of *Remiza* (gen. nov.), and one of *Sitta*, with two additional subspecies, one of which (*Sitta amurensis clara*) is described as new. Synopses are given of the genera and species, the synonymy is

* Notes on Species of the Australian Genus Pardalotus. By Leonhard Stejneger. Proc. U. S. Nat. Mus., 1866, pp. 294-296. (Dated Oct. 19, 1886; received by the reviewer Feb. 14, 1887.)

† On Turdus alpestris and Turdus torquatus, two distinct species of European Thrushes. By Leonhard Stejneger. Proc. U. S. Nat. Mus., 1886, pp. 365-373. (Dated Oct. 30, 1886; received by the reviewer Feb. 14, 1887.)

‡ Review of Japanese Birds. By Leonard Stejneger. II.—Tits and Nuthatches. Proc. U. S. Nat. Mus., 1886, pp. 374-394. III. Rails, Gallinules, and Coots. *Ibid.*, pp. 395-408. (Dated "Oct. 20, 1886"; received by the reviewer Feb. 14, 1887.)

discussed in detail, and the relationships of the different forms carefully considered.

In Part III the Rails and their allies are similarly treated, of which four species are referred to *Porzana*, one to *Rallus*, one to *Gallicrex*, one (o presumed occurrence) to *Amaurornis*, one to *Gallinula*, and one to *Fulica*.

Dr. Stejneger has also published a paper on a collection of birds made in the Liu Kiu Islands, Japan, by Mr. M. Namiye,* containing descriptions of five new species and one new genus, as follows: *Treron permagna*, *Hypsipetes pryeri*, *Icoturus namiyei* (gen. et. sp. nov.), *Chelidon namiyei*, and *Pericrocotus tegimæ*. *Megascops elegans* (Cass.) is added to the Japanese fauna, and its relationship to *M. japonicus* is discussed at length.—J. A. A.

Blakiston on the Water-Birds of Japan.†—In a paper of nine pages Mr. Blakiston discusses in a very interesting way, the distribution of the Water Birds of Japan, the character of their distribution being indicated by two tables, prefaced by three pages of explanatory remarks and a discussion of the facts presented in tabular form. The first table includes all the Water Birds of Japan, including the Kurils, Bonins, and other outlying islands. The 94 species are arranged in four columns, according to their distribution, as 'circumpolar', 'Palæarctic', 'East Asiatic', or 'Pacific'. The second table exhibits, so far as available data will permit, "the distribution of Sea-birds peculiar to the North Pacific." These, numbering 60 species, are distributed in three columns, under the heads 'Only on the Asiatic side', 'Common to both sides', and 'Only on the American side'. From this table it appears that twice as many birds are peculiar to the American side as to the Asiatic side, but this disproportion, as Mr. Blakiston observes, may be more apparent than real, owing to the ornithology of the eastern side being much better known than that of the western side. The tables are followed by several pages of critical and technical remarks on many of the species enumerated.—J. A. A.

Wells and Lawrence on the Birds of Grenada, West Indies.—For the last three years Mr. Wells has been sending specimens of the birds of the Island of Grenada, West Indies, to Mr. Lawrence for identification, from which has resulted the present 'Catalogue'‡ of ninety-two species of the birds of the island. As Mr. Lawrence states, in a prefatory note, "Mr. Wells enumerates thirty-eight species more than are given by Mr. Ober in his catalogue of the birds of Grenada. He procured all the species obtained or seen by Mr. Ober, and four he had not identified have been determined.

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* On a Collection of Birds made by Mr. M. Namiye, in the Liu Kiu Islands, Japan, with descriptions of new species. Ibid., pp. 634-651. (Dated Feb. 14, 1887; received March 17, 1887.)

† Water-Birds of Japan. By J. W. Blakiston. Proc. U. S. Nat. Mus., 1886, pp. 652-660.

‡ A Catalogue of the Birds of Grenada, West Indies, with observations thereon. By John Grant Wells, of Grenada. Edited by George N. Lawrence. Proc. U. S. Nat. Mus., 1886, pp. 609-633. Signatures dated Feb. 11, 1887.

Of most of the species he has given very full and interesting notes of their habits. Mr. Wells has proved himself to be a most diligent collector and careful investigator, the result being, besides the greatly increased number of birds added to the fauna of Grenada, the discovery of three species new to science and of eleven species not before noted from the Lesser Antilles."

Mr. Wells's very full and interesting biographical notes are often supplemented by technical remarks by Mr. Lawrence, including the description of one new species (*Blacicus flaviventris*), and of the male of *Engyptila wellsi*. Mr. Lawrence has since described a fourth species (*Margarops albiventris*),* making twelve species described by Mr. Lawrence from collections made by Messrs. Ober and Wells in the Island of Grenada.—J.A.A.

Ridgway Ornithological Club.—Bulletin No. 2 of this Club, which seems to be in a prosperous state, contains a short history of the Club, by the editor, Geo. L. Toppan, the Constitution and By-Laws, and the following papers: 'Notes and Observations on the Ornithology of Corpus Christi and Vicinity, Texas,' by Josiah L. Hancock; an annotated list of 91 species observed from March 16 to April 1, 1884. 'Geographical Variations between *Chondestes grammacus* (Say) and *Chondestes grammacus strigatus* (Swains.)', by H. K. Coale, in which the distinctness of the two forms is maintained. 'List of the Birds found breeding within the corporate limits of Mt. Carmel, Illinois,' by Robert Ridgway, noting 85 species, and concluding with a comparison of the breeding birds of that locality and of Washington City. The number of breeders in the vicinity of Mt. Carmel is stated to be 122; of Washington, 106. 'Notes on the Birds of Southern California and Southwestern Arizona,' by G. Frean Morcom; 139 spp., with extended observations on certain Hummingbirds. '*Ammodramus beldingi* Ridgw. (Belding's Marsh Sparrow),' by B. T. Gault, descriptive and biographical. 'A Contribution to our knowledge of Albinism,' by Geo. L. Toppan; discussion of this affection and list of upwards of 150 species in which it has been observed. '*Dryobates nuttallii* (Gamb.) Nuttall's Woodpecker,' by B. T. Gault; biographical. 'Description of a new species and subspecies of the genus *Dendroica*,' by H. K. Coale. The latter is *D. æstiva morcomi*, p. 82, from the western province of North America; the former is *D. dugesi*, p. 83, from Guanajuato, Mexico. —A list of officers, etc., closes this interesting Bulletin.—E. C.

Publications Received. — **Blasius**, Rudolf. (1) Der Wanderzug der Tannenheher durch Europa im Herbste 1885 und Winter 1885-86. Eine monographische Studie. (Ornis, Jahr. II, 4 Heft.)

Carpenter, F. H. A record of the breeding of Vireo solitarius, Spiza americana, and Dendroica cærulescens in Bristol County, Mass. (Publ. Bristol Co. Orn. Club, No. 3, 1887.)

Clark, Hubert L. The Birds of Amherst and Vicinity, including nearly the whole of Hampshire County, Mass. Amherst, Mass., 1887, 8vo. pp. 56.

*Description of a New Species of Thrush from the Island of Grenada, West Indies By George N. Lawrence. Ann. New York Acad. Sci., Vol. IV, 1886, pp. 23, 24.

Dubois, Alph. Description de deux nouvelles espéces d'Oiseaux. (Ext. du Bull. du Mus. roy. d'Hist. Nat. de Belgique.)

Lawrence, G. N. Description of a New Species of Thrush from the Island of Grenada, W. I. (Ann. N. Y. Acad. Sci., IV. pp. 23, 24, 1887.)

Leverkühn, Paul. Ornithologische Exkursionen im Frühling 1866. Von Clausthal nach Kiel. (Monatschrift des Deutschen Vereins zum Schutze der Vogelwelt, XI Jahr. pp. 241 et seq.)

Meyer, Dr. A. B., und Dr. F. Helm. Jahresbericht (1885) der orn. Beobachtungsstationen im Konigsreichs Sachen. Dresden, 1886, pp. 82.

Moseley, E. L. List of the Birds, Mammals, Birds' Eggs, and Desiderata of Michigan Birds of the Kent Scientific Institute, Grand Rapids, Mich. 8vo. pp. 32.

Salvadori, Tommaso, Calalogo delle collezioni ornitologiche fatte presso Siboga in Sumatra e nell' isola Nias dal Signor Elio Modigliane e descrita da Tommaso Salvadori. (Ann. del Mus. Civ. di Stor. Nat. di Genova, Ser. 2, Vol. IV, May, 1887.)

Shufeldt, R. W. (1) Contributions to the Anatomy of Geococcyx californianus. (Proc. Zool. Soc. London, 1886, pp. 465-491, pll. xiii, xiv.) (2) Additional Notes upon the Anatomy of the Trochili, Caprimulgi and Cypselidæ. (Ibid., pp. 501-503.) (3) Bird Notes from New Mexico. (Forest and Stream, March 31, 1887.)

Wells, John Grant. Catalogue of the Birds of Grenada, West Indies, with observations thereon. Edited by George N. Lawrence. (Proc. U. S. Nat. Mus., 1886, pp. 609-633.)

Agassiz Companion, II, No. 4, April, 1887.

American Field, XXVII, Nos. 13-23, 1887.

American Naturalist, XXI, Feb.-May, 1887.

American Journ. Sci., XXXIII, April-June, 1887.

Anzeiger, Zoologischer, Nos. 246-251, 1887.

Audubon Magazine, I, Nos. 3-5, 1887.

Bird Call, I, Nos. 4-6, April-June, 1887.

Bulletin California Acad. Sci., II, No. 6, Jan., 1887.

Bulletin Ridgway Orn. Club, No. 2, 1887.

Canadian Record of Science, Vol. I, 1884-85; Vol. II, Nos. 1-7, 1886-87.

Forest and Stream, XXVIII, Nos. 9-19, 1887.

Hoosier Naturalist, II, Nos. 7-10, 1887.

Journal Cincinnati Soc. Nat. Hist., X, No. 1, April, 1887.

Naturalist, The. A Month. Journ. Nat. Hist. for the North of England, Nos. 141-143, April-June, 1887.

Ornis, II Jahr. 1886, 4 Heft; III Jahr. 1887, 1 Heft.

Ornithologist and Oölogist, XII, Nos. 4-6, 1887.

Ottawa Naturalist, I, Nos. 1, 2, April, May, 1887.

Proceedings U. S. Nat. Mus., 1886, pp. 621-714; 1887, pp. 1-96.

Publications of the Bristol County (Mass.) Orn. Club, No. 3, 1887.

Swiss Cross, I, April-June, 1887.

Transactions Ottawa Field Naturalists' Club, II, No. 3, 1887.

Zoologist, XI, Nos. 124-126, April-June, 1877.

GENERAL NOTES.

The Double-Crested Cormorant near Springfield, Mass. — A male Double-crested Cormorant (*Phalacrocorax dilophus*) was taken at Long meadow, four miles from here, May 6, 1887, in full breeding plumage. I have not known of one in this vicinity at this season of the year before, and only twice before in the autumn.—ROBERT O. MORRIS, *Springfield, Mass.*

The Florida Gallinule in Nova Scotia.—Mr. Watson Bishop, of Kentville, has in his collection a Florida Gallinule (*Gallinula galeata*) which was taken near the Cornwallis River, N. S., on September 20, 1886, by Mr. E. F. L. Jenner. Mr. J. M. Jones reports that three other examples of this species have been taken in that Province.—MONTAGUE CHAMBERLAIN, *St. John, N. B.*

The Middletown, Conn., Glossy Ibis of 1850.—In reference to the Middletown specimen noticed by Mr. Browne in his paper on the 'New England Glossy Ibises' (Auk, April, 1887), I would say that the original announcement by Dr. Barratt appeared in the Middletown, Conn., 'Sentinel and Witness' for Tuesday evening, May 21, 1850 (Vol. XXVIII. No. 1430), and is as follows:

"[For the Sentinel and Witness.]

"BLACK EGYPTIAN IBIS (A RARE BIRD).

"CALLED ALSO GLOSSY IBIS, *Ibis falcinella.*

"One of these rare birds, *Ibis falcinella*, was shot at Middletown, on the banks of the Connecticut, May 9th, time of a high flood. It is a male in full plumage. Its length is twenty-eight inches,* and stands eighteen inches high, bill five inches long, which is slender and curved. It has been carefully preserved, and is now in the cabinet of Dr. J. Barratt.

"By the papers we learn that a similar bird was shot at Freshpond, near Cambridge, Mass., on the 8th inst., and has been presented to the Harvard Cabinet of Natural History.

"It is highly probable that these birds belonged to the same flock, and may have been driven to the south by the late storms, after crossing Behring's straits — having left the valley of the Nile in March, as we suppose.

"The *Ibis falcinella* is very rarely seen in the United States. This is the first that has come to our notice on the Connecticut, and has not been known in this country many years.

"The Prince of Musignano was the first to show that the bird called *Tantalas Mexicanus* by Mr. Ord (the continuator of Wilson's Ornithology), was the *Ibis falcinella* of Europe, a bird common in Egypt.

"*NOTE.—Mr. Nuttall says length 23 inches,—that, I apprehend, is a typographical error for 28. Turton in Brit. Fauna, p. 55, says length 2 ft. 6; extent of wings, 3 ft. 2; weight, 18 ounces."

"Mr. Nuttall in vol. 2, p. 89, of his highly interesting work on American Birds, has given a full history of this species of Ibis, with a figure shewing the Pyramids in the background. To this work we refer the reader (who has access to it). Mr. N. says, 'it is a periodical visitor of Egypt, where, in common with the Sacred Ibis, it was revered and embalmed in the vast catacombs of Saccara and Memphis. It arrives in that country in October, and leaves it in the month of March. They spread themselves into Russia, Siberia, Tartary, Denmark, occasionally in Sweden, and perhaps Lapland, remaining in those countries until driven to migrate by the inclemency of approaching winter, at which period they appear to arrive in Africa and Asia. It is a still more rare and accidental visitor to the United States.'

"'So highly was it honored, that the Ibis became the characteristic hieroglyphic of the country; repeated upon all their monuments, obelisks and national statutes. The abundance of their remains in the catacombs proves indeed the familiarity which the species had with the indulgent inhabitants of its favorite country. Diodorus Siculus says these birds advanced without fear into the midst of the cities. Strabo relates, they filled the streets and lanes of Alexandria to such a degree as to become troublesome and importunate. The Ibis is now no longer venerated in Egypt, and is commonly shot and ensnared for food. The markets of the sea coast are now abundantly supplied with them and a white species as game — both of which are ignominiously exposed for sale deprived of their heads, a spectacle from which the ancient Egyptians would have recoiled with horror.'

"The person who shot the Ibis at this place remarked, 'how tame it was.' This confidence and easy familiarity with man would render it entirely unfit for a residence in New England, where there is such a murderous propensity to shoot the feathered race.

"J. BARRATT.

"*Middletown, Ct.*, May 16, 1850."

The above account was reprinted in the 'Fourth Annual Report of the Regents of the University on the Condition of the [New York] State Cabinet of Natural History for the year 1850' (1851), pp. 113-115.

The Regents add: "A bird of the same species, shot by Mr. Hurst, on Grand Island, in the Niagara River, in August, 1844, is now in the State Cabinet. See Third Annual Report, p. 22."

Dr. Barratt's specimen is in good condition in the Museum at Wesleyan University, Middletown.—JNO. H. SAGE, *Portland, Conn.*

Geococcyx californianus—A Correction.—The writer published a memoir entitled 'Contributions to the Anatomy of *Geococcyx Californianus*,' which was read Nov. 16, 1886, and appeared in the 'Proceedings' of the Zoölogical Society of London on April 1, 1887. He finds that the figures of the muscles of the pelvic limb of the bird (pll. xliv and xlv) are somewhat reduced, whereas in the 'Explanation of Plates' it states that these parts are figured "life size." This error arose from the fact that the publishers

determined to include these figures on plates rather than give them life size, as originally intended, in the text, and they had to be reduced to do so. It was a very natural oversight to make on the part of the publishers, to print the author's corrected proof as returned to them, and the latter was not aware of the change. Such slips will occasionally occur, especially when author and publisher are separated by a distance of nearly 6000 miles, as in the present instance.—R. W. SHUFELDT, *Fort Wingate, N. M.*

Hummingbirds feeding their Young on Insects.—Mr. Manly Hardy has kindly consented to my publishing the following extract from one of his letters: "When I was in Colorado Mr. E. Carter told me this story. He found a Hummingbird's nest one afternoon, containing two eggs. As he wanted the parent he left it and returning next day shot her. To his surprise there were two young in the nest instead of eggs. Upon dissecting the young he found two insects in the stomach of one of them, thus proving that Hummingbirds sometimes feed their young on insects within twenty-four hours from the time they are hatched." Unfortunately Mr. Hardy did not ascertain the particular species of Hummer above referred to.—WILLIAM BREWSTER, *Cambridge, Mass.*

Otocoris alpestris praticola in Chester County, South Carolina.—Although noteworthy for its severity, the past winter was not favorable for the presence of Horned Larks in this portion of the Piedmont Belt. The rigorous weather of the early part of December, 1886, brought, however, a little company of less than a dozen, nine of which were taken. A study of Mr. Henshaw's descriptions (Auk, Vol. I, July, 1884) led to the conviction that these birds, which formed a continuous series, headed by a large and bright-colored male, were Prairie Horned Larks. Selecting a typical female and the extreme male, I forwarded them to Mr. Henshaw, who courteously examined the samples, determining them as follows: "I think you can safely call both specimens *Otocoris alpestris praticola*. The male is rather large, but it comes nearer to this race than to either of the others."

Whether *alpestris* and *praticola* will be found contemporaneously cannot be affirmed without further observation, but it is probable that both appear during some winters, though perhaps not during the same period of cold.—LEVERETT M. LOOMIS, *Chester, S. C.*

Clarke's Nutcracker (*Picicorvus columbianus*) in the Bristol Bay Region, Alaska.—The northward range of this species has been very much extended by the capture of a specimen at Nushagak, Alaska (lat. 60° N., long. about 159° W.), by Mr. J. W. Johnson, signal observer at that station. The specimen (No. 110,095, U. S. Nat. Mus. Coll.), an adult male, was obtained Nov. 5, 1885, and is apparently exactly like specimens from the Western United States.—ROBERT RIDGWAY, *Washington, D. C.*

Clarke's Nutcracker from the Kowak River, Alaska.—Since the above was written, the National Museum has received from Lieut. Geo. M. Stoney, U. S. N., an interesting collection of birds made in the valley of the Kowak or Putnam River, some 600 miles or more due north from the locality mentioned in the previous note, and among the species represented is an example of *Picicorvus columbianus* (No. 110,374, U. S. Nat. Mus.).—ROBERT RIDGWAY, *Washington, D. C.*

The Canada Jay in Southern Vermont in Summer.—While camping out last summer in Somerset, Vermont, I obtained a fine specimen of the Canada Jay (*Perisoreus canadensis*). The place was about 30 miles from the Massachusetts State line, in thick evergreen woods. It was on the morning of August 5, about 6 A. M., when I observed a pair of strange birds near the tent. I stepped back and got my gun, when the birds flew a short distance. I fired and brought down one of them, and on picking it up saw it was of this species. I have been unable to obtain the exact altitude of the place, but it was about 1500 feet. The latitude is about 43° north. Is not this very far south for this bird in summer?—HUBERT L. CLARK, *Amherst, Mass.*

Xanthocephalus xanthocephalus in Connecticut.—A bird which appears to be unquestionably of this species was shot out of a flock of *Agelaius phœniceus*, on the open meadow opposite Hartford, late in July, 1884. From the plumage, I consider it to be a female. This makes, I believe, the third recorded occurrence of this species in New England.—WILLIAM E. TREAT, *East Hartford, Conn.*

Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*) **in Maine.**—Early in November, 1886, there was sent me for identification by Mr. Fred. Rackliff, of Spruce Head, Maine, a young female of this species, which Mr. Rackliff stated was shot by him on Metnic Isle, August 9, 1883. —ROBERT RIDGWAY, *Washington, D. C.*

The Baltimore Oriole (*Icterus galbula*) **in Nova Scotia.**—In September, 1886, I received from Mr. A. B. Sheraton, of Halifax, a young male of this species in the flesh. Mr. Sheraton wrote me that he had bought it from a countryman in the streets of Halifax, who reported having shot it within a few miles of that city. I cannot find any previous record of the occurrence of this Oriole in Nova Scotia, although it breeds regularly in the vicinity of Woodstock on the St. John River.—MONTAGUE CHAMBERLAIN, *St. John, N. B.*

Occurrence of the Evening Grosbeak (*Coccothraustes vespertina*) **at Toronto, Canada.**—On the afternoon of April 2, Dr. J. E. White, of this city, informed me that he had that morning discovered a flock of over thirty Evening Grosbeaks feeding near the northern boundary of the city. The announcement was very surprising, but all doubts were dispelled by

the production of a female specimen that he had secured. We went at once to the place, with a view to procuring additional specimens, but the flock had departed, and were no more seen. A resident of the neighborhood informed us that they had continued about this locality for over a week.

This is the fifth record of the species in Ontario.—ERNEST E. THOMPSON, *Toronto, Canada.*

Occurrence of the Evening Grosbeak in Fulton County, Kentucky.—Upon becoming certain that the Evening Grosbeak (*Coccothraustes vespertina*) really had been seen by me in this State I wrote to Mr. J. A. Allen to know if its occurrence was of any especial interest. He wrote that its occurrence anywhere south of the Great Lakes was rare, and might be considered almost as accidental, and that he knew of no record of its occurrence south of the Ohio River, and asked for my notes on the species in full for publication in 'The Auk.' They are as follows: March 18, 1887, Mr. Robert Powell showed me a female he had found dead. He said it was a 'Paroquet.' On March 22, I killed a female and saw another but could not secure it. The next day I saw several and killed a fine male. On the 25th I saw a flock of seven, but they were in the city limits and I could not shoot any. Up to date (March 29) these are all my notes on the species. If I see it again I will report further.—L. O. PINDAR, *Hickman, Ky.*

Winter Plumage of Leucosticte australis.—During the month of January, 1886, I was so fortunate as to secure several specimens of *Leucosticte australis* in full winter dress, and as no account of the winter plumage of this species has, I believe, ever appeared, the following may be of interest.

Leucosticte australis, adult ♂ in winter plumage (No. 1513, Coll. A. W. A.; January 24, 1886, Gold Hill, Boulder County, Colo.). Pileum grayish black, darkest anteriorly, slightly paling to grayish on occiput; lores dull blackish; nasal plumes white. General color above and below light umber-brown, tending to chocolate on the chin and throat. Feathers of the back with darker shaft-lines and paler edges; those of the breast but slightly tipped with whitish. Hinder parts of the body, above and below, rich carmine-red; primaries, outer four secondaries, second, third, fourth and fifth rectrices edged, and lesser wing-coverts broadly tipped with same color. Wings and tail blackish, all of the primaries and secondaries broadly, and median pair of rectrices slightly, edged with dull white. Lining of wings white, edged with rosy. Bill yellow, tipped with black for one-fourth its length. Feet black.

Adult ♀ (No. 1510, Coll. A. W. A.; Jan. 24, 1886, Gold Hill, Boulder Co., Colo.). General color as in the male, but paler. Light edgings of the feathers of the breast and back slightly more conspicuous; rosy markings paler and duller, primaries and first secondaries very slightly edged with rosy; wing-coverts and inner secondaries edged with buffy white;

lesser coverts tipped with the rosy of the abdomen, secondaries and tail-feathers slightly edged with hoary, linings of wings white, each feather slightly tipped with rosy. Bill yellow, tipped with black for one-quarter of its length.

Juv., sex? (No. 1515, Coll. A. W. A,; January 24, 1886, Gold Hill, Colo.). Crown dull grayish-black, feathers edged with gray, fading on the occiput into the grayish brown of the neck. Lores dusky; nasal plumes dull whitish. Sides of head and neck all around grayish brown, deepening to umber-brown on the chin and throat. Lower parts anteriorly light brown, each feather edged with whitish; abdomen dusky, the feathers tipped with pale pinkish and dingy white, feathers of the back dull brown, with darker shaft-lines and paler edges; upper tail-coverts and lesser wing-coverts with rosy markings; greater coverts edged with white, very slightly tinted with same. Wings and tail blackish, all of the feathers more or less edged with dull white. Lining of wings white. Bill yellow, clouded with black; feet and tarsus black. The entire plumage of this specimen has a very bleached, uncertain appearance.

In comparing the full plumaged *australis* with *L. tephrocotis*, both in winter dress, I find the latter much the darker bird, the umber-brown on the breast and back of the female *tephrocotis* being of about the same shade as that found on the male *australis*. In *tephrocotis* the rosy hue is less extended, decidedly duller, and more broken by the ground colors of the body. In *tephrocotis* I often find the rump marked with crescent-shaped rosy spots on a chocolate ground, while in *australis*, although the rosy patch is seldom, if ever, continuous, it is usually less broken and extends farther forward. A few of the males of *australis* had the carmine of the abdomen clear and unbroken, extending in the middle much farther forward than in *tephrocotis*, which, in all cases examined, had the colored patch more or less broken by chocolate-brown.—A. W. ANTHONY, *Denver, Colorado.*

Note on Spizella monticola ochracea Brewst.—In his 'Additions to the Catalogue of the Birds of Kansas', Col. Goss suggests that, since all the specimens of this form examined by him had been "captured in the fall or early winter, further examination, especially of the birds in their spring plumage, might prove the paler form to be the immature winter dress" of the common species (true *S. monticola*), although he remarks that "Mr. Brewster, in making his examination, had before him not only his large collection, but that in the National Museum, which must have embraced specimens taken at different seasons of the year." For Col. Goss's information on this point, as well as for that of others who may not be familiar with the two forms in their various plumages, I would state that the National Museum collection embraces large series of both taken on their breeding grounds, *S. monticola* in northern Labrador (Ft. Chimo, Ungava, by L. M. Turner) and *S. monticola ochracea* in Alaska (various localities by various collectors), and that the two forms are in summer dress quite as distinct from one another as in winter, the young in first plumage being equally different. Moreover, the difference is perfectly

constant so far as birds from the two regions are concerned, the comparatively very small number of specimens of intermediate character coming of course from neutral territory.—ROBERT RIDGWAY, *Washington, D. C.*

Spizella pusilla wintering near Hartford, Conn. — This species seems to have some inclination to winter in this vicinity, as will be seen from the following data: While collecting Jan. 11, 1886, I saw four, three of which I shot for positive identification. Jan. 26, of this same year, I saw another which was in company with a flock of *Spizella monticola*. I could not find them again during the winter of this year. On Jan. 20, 1887, noticing a small Sparrow hopping around the door-yard I soon approached it, and found it very tame, and noticed that it was a typical *Spizella pusilla*. This bird remained around here, during a very 'cold snap,' until Jan. 26, after which it suddenly disappeared. From these facts, I think their stay here must have been voluntary, for the coldest weather failed to drive them away, and there were several seen at different times, which proves clearly enough that they were not all disabled birds.—WILLARD E. TREAT, *East Hartford, Conn.*

Change of Winter Habitat in the Grass Finch.—I take the following entries from my note book: "January 2, 1885. Shot four males from a flock of twelve *Poocætes gramineus confinis*, the first I ever saw here in winter. They seemed to want to feed in one spot of stubble and would return to it after being fired at.—Jan. 5. Saw Grass Finches.—Jan. 8. Saw same flock of Grass Finches.—Jan. 12. I saw a flock of one dozen Grass Finches at the school house.—Jan. 13. I saw two dozen Grass Finches at the school house; think they came from the south; also Savanna Sparrows, and a flock of Waxwings. Mercury 30° F.—Jan. 16. Cold high wind all night. Temperature about zero. I saw three Grass Finches and a Song Sparrow.—Jan. 17. Mercury 9° (above). The Grass Finches are still feeding at the stock corral; not more than half a dozen seen at one time.—Jan. 22. Mercury 32°; wind E. S. E.; rain and sleet. In a two mile walk I saw a large flock of Grass Finches. In comparing ten skins eight of the skins are exactly intermediate between the typical *gramineus* and the var. *confinis*. One is typical *gramineus*, shot here (Cook Co., Tex.) March 12, 1880. One is var. *confinis*, shot at Colorado, Tex., May 18, 1882.—Feb. 2. I shot and compared three Grass Finches; they seem to constantly stand between the type and the variety; the bill of the western bird may be a little longer and the ear-coverts whiter or grayer. Size in inches:

♂	Length,	6.30	Wing,	3.10	Tail,	2.60
	"	6.25	"	3.00	"	2.35
♂	"	6.00	"	2.90	"	2.50."

From the above it may be seen that the birds persisted in staying through January, and my notes show that they were seen at intervals until March 12, when they were heard singing.

On Nov. 17, 1885, the bulk passed south, and on Dec. 10 the mercury fell to 15° below freezing. This was the coldest weather until Jan. 7, 1886. On Jan. 6, 1886, a flock of fifteen were seen, and were repeatedly seen up to Jan. 20. Where those birds came from and why they came at such an unseasonable time of the year is the question. It will be seen that they passed south in November, 1885. It will be further noted that there was only four days difference in the time of arrival in January, 1885, and that of 1886. For three weeks prior to their arrival in 1885 it was very cold for this climate. For three weeks prior to their arrival in 1886 the temperature was moderate. During January, 1886, they endured weather 4° below zero.

If winds are to be considered as affecting the flight of birds, these Finches must have come from the N. W., as it had blown from that quarter for five successive days, and one day it blew with great violence all day. They were just ahead of the 'blizzard' of Jan. 7, which was also from N. W. But why should they come in advance of the cold in 1886, and through it in 1885? Mr. Nehrling (Bull. N. O. C., Vol. VII, p. 12) says: "Grass Finch. Only found during migrations. None remain, so far as I know, to winter or to breed." His observations were made near Houston, Tex. Mr. Geo. B. Sennett's 'Notes on the Ornithology of the Lower Rio Grande of Texas,' page 17, says: "*Poœcetes gramineus confinis* (Gm.) Bd. Western Grass Finch. ♂ Apr. 9th, Brownsville. ♀ Apr. 29th, Hidalgo." Dr. J. C. Merrill's 'Notes on the Ornithology of Southern Texas' (Ft. Brown), page 126, says: "*Poœcetes gramineus* var. *confinis* Baird. Spring and Autumn."

It is probable from the longitude of the localities in which the above observations were made that a large per cent. of the Grass Finches are of the intermediate form.

It is worthy of note that Grass Finches were wintering south of the Rio Grande in 1876, and on the northern border of Texas in 1886.—GEORGE H. RAGSDALE, *Gainsville, Cook Co., Tex.*

A Song Sparrow wintering in Eastern Maine.—During the winter of 1885-86 I received a Song Sparrow (*Melospiza fasciata*) from a friend, who secured it on January 23, 1886. The bird found abundant food during its winter sojourn in the chaff and other refuse from a large barn, in the immediate vicinity of which was a protected covert that afforded it ample shelter. On dissection it proved to be a male in good condition. Considering the date and locality, it may fairly be said to have been wintering. —LEWIS M. TODD, *Calais, Me.*

The Song Sparrow in New Brunswick in Winter. — I have seen the Song Sparrow occasionally in New Brunswick during the winter months, and Mr. Francis Bain says a few regularly remain on Prince Edward's Island all winter.—MONTAGUE CHAMBERLAIN, *St. John, N. B.*

Unusual Nesting-Site of the Song Sparrow.—Mr. Wilbur F. Lamb, of Holyoke, Mass., writes me under date of May 30, 1887, as follows: "I

send you in same mail with this a bird which was captured on her nest in a hole in a willow tree. The hole was made by the decay of a limb, was about five and a half feet from the ground, and large enough to admit the hand of an adult easily. It was about ten inches in horizontal depth. There was almost no nest—simply a depression scratched in the decayed wood, with half a dozen short strips of grape-vine bark arranged circularly in it. The whole cavity was wet and soggy. . . . . The bird was sitting on five eggs when captured." On examination the bird proved to be a female Song Sparrow (*Melospiza fasciata*), showing marks of incubation.—J. A. Allen, *American Museum of Natural History, New York City.*

The Sharp-tailed Sparrow (*Ammodramus caudacutus*) in a Fresh-Water Marsh.—I am informed by my friend, Mr. Lewis M. Todd, of Calais, Me., that during the autumn of 1886 he captured one of these Sharp-tails on a marsh some distance above the falls on the St. Croix River. The water at that point must be free from saline flavor, as the falls prevent the sea water from reaching it.—Montague Chamberlain, *St. John, N. B.*

Nesting of the Hudsonian Chickadee (*Parus hudsonicus*).—I find that this species, when excavating for its nest, sometimes enters from the side of a tree, and not invariably from the top of a stump, as I have stated elsewhere. My co-laborer in this district, Mr. James W. Banks, during the seasons of 1885 and 1886, discovered three nests of which the entrance was at the side of a decayed stub. One of these, now before me, is a rather interesting example. It lays in the section of the tree (a poplar) just where it was placed by the birds. The tree measures four inches in diameter, and the nest fills all the space excepting the little that is taken up by the outer bark, and on one side by a slight margin of the decayed wood. The nest is about two inches deep, and is set on a cushion of dried moss. Beside the felted fur used in the construction of the nest, there is considerable dry moss mixed through, a material I have never before seen in the nests of this species.

The entrance was about six inches from the top of the nest. After piercing the outside shell of bark the excavation turned downward, and was carried obliquely some four inches, where it was abruptly widened from two to four inches. This width was continued to the bottom.—Montague Chamberlain, *St. John, N. B.*

Another Addition to the Avi-fauna of South Carolina. — May 6, 1887, I shot a specimen of *Turdus aliciæ bicknelli* in the thick undergrowth of a large body of timber near the town of Chester. In the same locality I have found *aliciæ*, in varying numbers, in former years. Some of the examples of this form have approached closely to the maximum dimensions of the lesser race, still none could be properly assigned to it. The following are the measurement of the bird above noted: ♂ Length, 176.53 mm.; extent, 274.32 mm.; wing, 86-36 mm.; tail, 72.39 mm.; culmen, 12.7; tarsus, 24.2 mm.; middle toe, 16 mm.—Leverett M. Loomis, *Chester, S. C.*

Another Specimen of Bachman's Warbler (*Helminthophila bachmani*).—It is with peculiar pleasure that I am enabled to supplement Mr. Lawrence's recent account of the capture of Bachman's Warbler in Louisiana,* by the record of a specimen from Florida. Mr. M. E. Spencer, keeper of the lighthouse at Sombrero Key, off Southern Florida, whose name will be long remembered in connection with the re-discovery of Swainson's Warbler,† has recently sent me the head and wings of a Bachman's Warbler which struck his light tower on the night of March 21, 1887. Mr. Ridgway has kindly compared this specimen with Audubon's type in the National Museum, and pronounces it to be an adult female.

This record is of unusual interest, not alone because it adds a bird to the fauna of Florida, but because it is the second positive record of the capture of Bachman's Warbler anywhere in the United States for more than half a century.

The only specimens of Bachman's Warbler at present known to have been taken in the United States are the following:

Two skins, male and female, belonging to the U. S. National Museum, collected at Charleston, South Carolina, by Dr. John Bachman. The female was taken in July, 1833, and the male is supposed to have been shot at about the same time. These specimens are the types of Audubon's description and plate.

A skin, male, in the collection of Mr. George N. Lawrence, collected at or near Lake Pontchartrain, La., by Charles S. Galbraith, in the spring of 1886.

A mounted specimen, female, belonging to the old Lafresnaye collection, now in the Museum of the Boston Society of Natural History; locality, date of capture, and name of collector unknown. This is the subject of Mr. Brewster's recent article in 'The Auk' (Vol. IV, No. 2, 1887, p. 165). Mr. Ridgway informs me that Mr. Brewster was wrong in supposing this specimen to be the female figured by Audubon, as that specimen belongs to the National Museum. But since Audubon states that several specimens were secured by Dr. Bachman, it is not impossible that one of them may have found its way into the Lafresnaye collection. —C. HART MERRIAM, *Washington, D. C.*

Additional Specimens of Bachman's and Swainson's Warblers, obtained by Mr. Chas. S. Galbraith, in the Spring of 1887.—Mr. Galbraith returned in May from Louisiana, where he had been collecting birds during the spring, at the same locality on Lake Pontchartrain where he obtained the specimen of Bachman's Warbler last year. He was requested to pay special attention to procuring Bachman's and Swainson's Warblers. Of the former (*Helminthophila bachmani*) he procured six specimens, two each of adult males and females and two immature females.

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* Auk, Vol. IV. No. I, Jan. 1887, pp. 35-37.

† Auk, Vol. II, No. I, Jan. 1885, pp. 62 and 104.

The adult males have the under plumage of a brighter yellow than that of the one obtained last year; the color, however, is of a rather light shade, not the deep yellow represented in Audubon's plates; the dark markings on the crown and upper breast are similar to the one procured last year.

The upper plumage of the adult female closely resembles that of the male, except that there is no indication of black on the crown, and on the front there is only a dull yellowish tinge; the under plumage is of a lighter yellow than in the male, with a dusky, grayish patch on the lower part of the neck, without any appearance of black as given in Mr. Audubon's plate, though in his description he says "fore-neck dusky."

The young female is quite like the adult in its upper plumage, but has the under plumage grayish, with just a tinge of yellow.

Both sexes of the adult are of the same dimensions: length, 4.50 inches; wing, 2.37; tail, 2; bill, .44; tarsus, .70. The young measure a little smaller.

In the color of its upper plumage (excepting the crown) this species closely resembles the Tennessee Warbler, and the young does somewhat in the under plumage, but they are easily distinguished by the whitish stripe over the eye and the dusky line from the bill to the eye in the Tennessee Warbler.

I requested Mr. Galbraith to note any peculiarity of habits, but he secured none of the specimens himself, all being killed by his assistants; to one of the males is attached a label with the following account: "Killed March 29, 1887; testes large. Killed on the upland; seen to fly from the ground to a small tree."

He procured but nine specimens of Swainson's Warbler (*Helinaia swainsoni*), which seems remarkable, as he collected so many more last year when not specially looking for them. They are probably local in heir habits, and the colony was reduced by the number obtained last year.—GEORGE N. LAWRENCE, *New York City.*

[It may be of interest to add that three of the six specimens of Bachman's Warbler, mentioned above as obtained this year by Mr. Galbraith, are now in the collection of Mr. William Brewster, and that the other three, and also the specimen obtained by Mr. Galbraith in 1886, are in the collection of the American Museum of Natural History, New York City. This increases the number of specimens taken in the United States to *eleven*. Several specimens, as is well known, have been taken in Cuba.—J. A. A.]

Birds laying their Eggs in the Nests of other Birds.—In 'The Auk' for January, Mr. H. B. Bailey, of South Orange, N. J., reports the finding of eggs of the Brown Thrush in the nest of the Wood Thrush. I have the eggs of *Coccyzus americanus* and *C. erythrophthalmus* taken from the same nest, two of the former and one of the latter. I think the nest was of *americanus*, but I could not distinguish which bird was on the nest at the time I found it.

I also found a nest of *Merula migratoria*, taken possession of by *Coccyzus americanus* before it was finished, which was filled nearly full of rootlets; and in this condition the Robin laid one egg and the Cuckoo laid two and commenced incubation, when a Mourning Dove (*Zenaidura macroura*) also occupied it and laid two eggs and commenced incubation with the Cuckoo. I found both birds on the nest at the same time, when I secured nest and eggs. The eggs of the Robin and Cuckoo were slightly incubated; those of the Mourning Dove were fresh. The above was published in the 'Forest and Stream,' Aug. 24, 1882, p. 65.

I also have a nest of *Sayornis phœbe* in which a Robin's egg is nearly embedded, and another of this same species with a Cowbird's egg quite covered. The latter is often found in the nests of small birds, but I have found them covered up, except in this instance, only by the Goldfinch and Summer Warbler.—J. L. Davison, *Lockport, N. Y.*

New Species of Winter Birds in New Brunswick.—On January 4 of the present year a Flicker (*Colaptes auratus*) was taken near St. John, N. B., and the following day a Night Heron (*Nycticorax nycticorax nævius*) was captured. Five days later a Sharp-shinned Hawk (*Accipter velox*) was shot while lurking around a barnyard.—Montague Chamberlain, *St. John, N. B.*

Additions to Mr. Drew's List of the Birds of Colorado. — Mr. Frank M. Drew in 'The Auk' for January, 1885, gives a list he believes complete of Colorado birds. I have observed here five years and can add to his list the following: viz.

Merganser serrator. Rather rare.

Chen hyperborea. Common.

Branta bernicla. Rare.

Grus canadensis. Not common.

Micropalma himantopus. Common.

Numenius hudsonicus. About fifty seen April 30, 1885. No others observed.

Asio accipitrinus. Common.

Colaptes auratus. But one seen.

Contopus pertinax. But one specimen.

Scolecophagus carolinus. Common. Not identified until this year. Found in flocks with *S. cyanocephalus.*

Spizella socialis. Abundant in spring. The bulk make a short stay. Not found breeding, though I suspect a few do breed. I am confident that this is not *S. s. arizonæ.*

Melospiza georgiana. About eighty seen in May, 1885. More in other years.

Pipilo maculatus arcticus. Common. Some years all seen are *T. m. megalonyx.*

Vireo olivaceus. Tolerably common.

Vireo bellii. Tolerably common.

Anthus spragueii. Four seen.
Thryothorus ludovicianus. One seen.
Thryothorus bewickii. One seen.
Turdus fuscescens. One seen.
Turdus aonalaschkæ pallasi. Not common.

This is a prairie country and many of the birds named in Mr. Drew's list are not found here.—P. M. Thorne, Capt. 22d Inft'y, U. S. A., *Fort Lyon, Col.*

CORRESPONDENCE.

[*Correspondents are requested to write briefly and to the point. No attention will be paid to anonymous communications.*]

Individual Variation in the Skeletons of Birds, and other matters.

To the Editors of The Auk:—

Dear Sirs:—Before saying anything about the individual variation in the skeletons of birds, allow me to pass a few remarks upon the letters of Dr. Stejneger and Mr. Lucas, which appeared in the last issue of 'The Auk' (April, 1887), and wherein I am called upon to hold up my hands for a number of sins. Dr. Stejneger is quite correct in calling me to account for saying that 'such forms as *Picus*' were birds with a 'two-notched' sternum; all Woodpeckers have *four* notches in their sternums, as we well know, and I must be pardoned for making such a *lapsus calami* or *lapsus memoriæ*, whichever it was. When Dr. Stejneger asks the question, however, with respect to the Swifts and Hummingbirds, and says, "What in the nature of these birds' flight has brought about such an extraordinary similarity, osteologically, myologically, and pterylographically in the wing-structure of the Swifts and Hummingbirds, as compared with that of the Swallows?"—it's another matter. And so far as the *osteology* of the wing-structure of a Swift and a Hummingbird is concerned and their "extraordinary similarity," I would simply invite Dr. Stejneger's attention to a short paper of mine in a recent issue (the April number, 1887, I believe) of the 'Proceedings' of the Zoölogical Society of London, wherein I have figured the *humerus* for a Swallow, Swift and a Hummingbird, and ask him where the "extraordinary similarity" comes in, in *that* part of the wing-structure of the last two forms mentioned?

As to the other extraordinary similarities I will dwell upon them in another connection, later.

Mr. Lucas's letter requires no special notice, for I must still plead *not guilty* to the charge of having published an "imperfect" drawing of the base of the skull of *Tachycineta thalassina*, and that is the sole point of

issue in his communication worthy of consideration. To those who saw Mr. Lucas's reproduction of the handsome woodcut the P. Z. S. gave me of my drawing of the structure in question, nothing need be said. But to those who have not yet had that pleasure permit me to say a word in my own defence. It will be remembered by those who have read this discussion, that Mr. Lucas claimed that my figure, just referred to is "imperfect" from the fact that the *maxillo-palatines are broken off*. My figure appeared in the P. Z. S. for 1885 (Dec. 1, p. 899, fig F.), and Mr. Lucas's purported copy of it appeared in 'Science' (No. 223, p. 461, fig. 1), some time after my original memoir appeared.

Now it was my intention, at first, to present here photographic copies of my drawing and Mr. Lucas's copy of it, in order to show, what I am afraid I must say, the unfair manner in which he has acted in the premises in order to support his views.

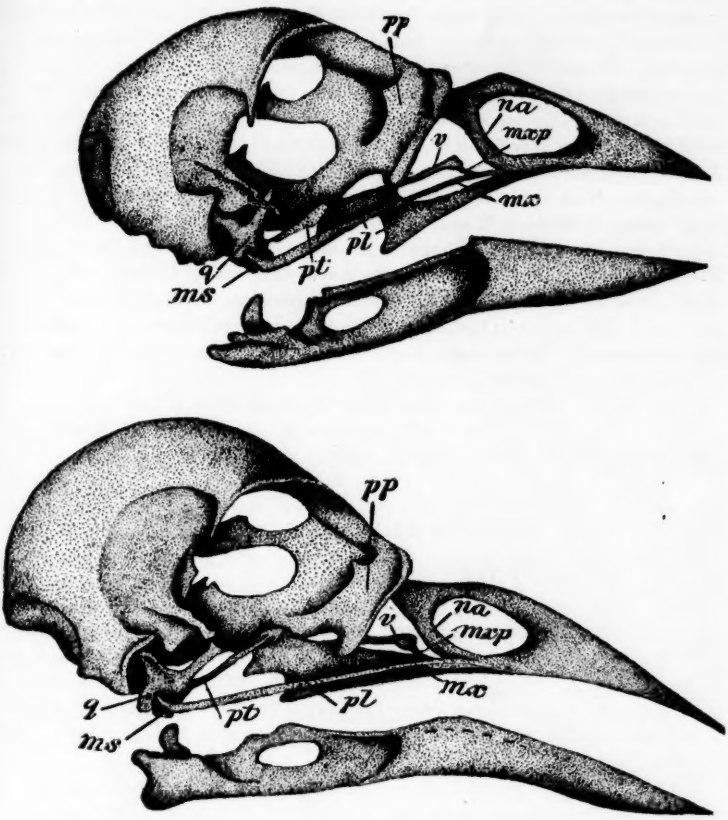
But space in 'The Auk' is far too valuable in my estimation to further argue the point,—and I will only say that in the copy (?) which Mr. Lucas made and published of my drawing the *backward-turned ends* of the maxillo-palatines have been *removed*, which ends are shown in my original drawing, small though they be. With this brief remark I close my case, and it will not be resumed by me under any circumstances; no one welcomes honest criticism more heartily than the writer,—but is that honest criticism?

Speaking now of the individual variation in the skeletons of birds I would like to reproduce here, in illustration of it, a pair of skulls which figured in an article of mine in 'Science' not long ago. As many readers of the 'The Auk,' both at home and abroad, possibly may not subscribe for that estimable journal, I was led to believe that in bringing these drawings more directly before ornithologists, many of them could not fail to find something of interest in them.

These each represent a skull (× 2) of the Yellow-headed Blackbird (*X. xanthocephalus*), the specimens having been collected by myself, and are now in my possession. We are very well aware that throughout animate nature, all specific forms vary more or less, and that the corresponding structures of any two species are never quite alike, either in form or size. So far as birds are concerned, I think it would be hard to find a pair of skulls, that would better show, taking this part of their organization into consideration, how great this variation may be sometimes. It is very evident that an *exact* description of one of these skulls would not answer for the other, notwithstanding that they are both from birds of the *same species*,—yet a *general* description could be written that would fully cover all their salient features, and sufficiently differentiate them from descriptions of the skulls of other birds.

With respect to *measurements* and exact descriptions, however, for any structure, for any particular species of bird, we are in the same quandary in our accounts of such structures among the lower vertebrates as the anthropotomists are with respect to descriptive human anatomy. Much might be written about these two skulls here figured which lack of space forbids, but this will not debar the thoughtful ornithotomist from making

a careful study of them for himself. One thing it must point out to all, and that is, for our descriptions of such structures to be broad and full we should have before us, whenever it is possible, *abundance of material*,—and, too, with respect to measurements, we should aim to establish reliable *standards* through the calculation of averages computed from carefully taken individual data.*



RIGHT LATERAL VIEW OF THE SKULLS OF X. XANTHOCEPHALUS, ♂ ♂, (×2).

pp, pars plana; *na*, nasal; *mxp*, maxillo-palatine; *v*, vomer; *mx*, maxillary; *pl*, palatine; *pt*, pterygoid; *ms*, manibular sesamoid; *q*, quadrate.

* Since publishing the above in 'Science,' Mons. Alfred Grandidier, Memb. de l'Institute de Paris, writes me from Paris that he fully agrees with me in the marked variation that may take place in the skulls of the same species of birds, and invites my attention to figures 1-1*d* of plate 156*a* of his 'Birds of Madagascar'; and to figures 2 and 4 of plate 18 of his 'Mammalia of Madagascar.' I regret to say that this well-known work is not before me at the present time.

At the first meeting of the A. O. U. Committee on the Classification and Nomenclature of North American Birds I was honored by having the request made of me by the Committee to make a report upon the entire structure of *Chamæa fasciata* with the view of throwing, if possible, some light on its position in the system, and although that is several years ago, all my continued efforts failed in securing the necessary material to the carrying out of such a task. Recently, however, through the great generosity of Mr. G. Frean Morcom, of Chicago, and the timely assistance of Mr. F. Stephens, of San Bernardino, Cal., thanks to both, I can now report that I have in my possession for the aforesaid piece of work, an exceptionally fine series of alcoholic specimens of the *Chamæa fasciata*. During the years of waiting I have not been idle myself, and I have alcoholics of many desirable forms to compare with our subject, but still many are among my desiderata and will be acknowledged with gratitude, as well as duly so in the Memoir, if sent to me. Such a bird as *Accentor modularis** would come into play, perhaps, or some of the Old World forms of the Timeliidæ; any species of the genus *Lophophanes* will be acceptable, and Wrens and Tits generally. Just as soon as other unfinished work will permit me, I will now put forth my best endeavor to render a full account of the structure of this interesting species, and that will fall within the year, — the powers permitting.

Very respectfully and faithfully yours,

R. W. Shufeldt.

Fort Wingate, N. Mexico, May 21, 1887.

'Scarcity of Adult Birds in Autumn.'

To the Editors of the Auk:—

Sirs: In a late (January) number of 'The Auk' Mr. Beckham asks for an explanation of the fact that out of three hundred and sixty-seven birds collected by him in Colorado and Kentucky between Sept. 1 and Nov. 22, 1886, three hundred and forty-eight were birds of the year, leaving only nineteen adults, of which eleven "were species resident where collected." The question thus raised was anticipated and answered in my recent paper on Bird Migration † by the following:

"IV. That with most North American birds the majority of adults either precede or accompany the first flights of young in the autumnal migration I am convinced by a long field experience, during which, moreover, I have failed to find any proof that the young of a single species precede the old. My evidence in support of this statement is of two kinds: (1) Observations made on the departure of birds from their breeding stations. (2) Observations on flights arriving from localities north of the stations of observations. The first class of evidence, in my opin-

* Professor Alfred Newton, F. R. S., writes me from Cambridge University that he has had collected for me a full series of his bird, for which my most sincere thanks are gratefully tendered.

† Mem. Nutt. Orn. Club, No. I, March, 1886, pp. 15–16.

ion, is much the more reliable, for reasons which will be given presently. It includes a long array of notes, from which I select and condense the following:—

"At all points where I have collected regularly and systematically through July, August and September I have found that the adults of most of the smaller land birds which migrate before October, and especially of those which migrate by night, begin to disappear as soon as the young become able to shift for themselves. Their departure is usually gradual, and often scarcely perceptible from day to day; but before there is any appreciable diminution in the number of young the adults have become so scarce that they commonly represent less than five, and often not more than one per cent. of the total number of individuals of their respective species present. As a rule they disappear as soon as, and often before, they have completed their summer moult, whereas the young usually linger for some time after their autumnal plumage is perfected. Every New England collector who has paid especial attention to obtaining adult birds in full autumnal dress will testify to the truth of this statement. With the Warblers there is often the greatest difficulty in securing such representatives of even the commonest species.

"My experience with species which come from further north is that the first flights are composed largely, and often entirely, of old birds. The reason why this fact has been overlooked, or even positively denied by so many observers, becomes apparent when we consider the dates at which even the earlier autumnal migrants are said to reach Massachusetts from the north.

"Almost without exception the time is fixed somewhere in September, and I venture to say that the majority of the New England collectors still believe that September 1 marks about the beginning of the autumnal migrations. This impression has resulted from the fact that our collectors are usually absent at the mountains or seashore during August. Even if obliged to pass the dog-days nearer home, they rarely think of taking the field at a time when it is supposed that there is nothing of value to be had there. The weather is hot and enervating, the foliage is at its densest, 'birds are silent and hard to find, and most of them in such ragged plumage that they are worthless as specimens.'

"Now the simple truth is that the migrations of the most of our small birds begin early in August. During the last two weeks of that month there are usually several real 'rushes,' when the woods throughout Eastern Massachusetts are filled with such northern species as *Turdus swainsoni*, *Sitta canadensis*, *Dendroica coronata*, *D. maculosa*, *D. blackburniæ*, *D. castanea*, *Sylvania pusilla*, *S. canadensis*, *Seiurus noveboracensis*, *Empidonax flaviventris*, *etc.*"

It is gratifying to have so much of the above corroborated by Mr. Beckham's experience. Perhaps other contributors to 'The Auk' may be able to add something on this interesting and important subject.

WILLIAM BREWSTER.

Cambridge, Mass.

The 'Proceedings' of the U. S. National Museum.

To the Editors of the Auk:—

Sirs:—In the last number of 'The Auk' you charge the 'Proceedings' of the U. S. National Museum with being *antedated*. Allow me to correct the presumption that the date at the bottom of the first page of each signature is "the date of its issuance from the Government Printing Office." The date in question is simply the date of stereotyping the plates, as it very often happens that these are not printed off immediately after casting. In order to avoid confusion in the future, it has been decided, however, to omit the date of stereotyping, and each sheet distributed separately will be stamped with the exact date of publication. In the volume of 'Proceedings' for 1886, there will be found a list of the dates of issuance of each signature, and it is intended to have a similar list accompany each volume in the future.

Yours, very truly,
Leonhard Stejneger.

Smithsonian Institution,
June 9, 1887.

We are glad to learn that the signatures of the 'Proceedings' will in future be stamped with the "date of publication," when sent out separately. The list of dates of issuance of the signatures of the volume for 1886 has come to hand, and will be of permanent value. The "date of stereotyping" certainly had the appearance of being the date of publication, and with nothing to indicate the contrary, would naturally be so taken, and, to our knowledge, has been so understood.—Edd.]

NOTES AND NEWS.

The American Museum of Natural History, of New York City, has recently received several important additions to the Department of Ornithology. One of the most important of these is the acquisition of Mr. D. G. Elliot's almost unrivalled collection of Hummingbirds, numbering over 400 species, represented by about 2000 specimens, and including some fifty or more types. Its importance is further enhanced from its having formed the basis of Mr. Elliot's recent monograph of the family. It doubtless ranks as second in the world in point of completeness, or next to that of the British Museum. This collection is a gift from Mr. Elliot, whose unfaltering interest in the Museum has been manifested on many occasions, by valuable donations and important services.

Another invaluable accession is the addition, by purchase, of Mr. George N. Lawrence's collection of American birds, numbering about 3000

species and including some 300 types. This collection is the gathering of a lifetime by a veteran ornithologist, and consists largely of specimens identified by the highest authorities, much of the material having passed through the hands of specialists. The collection contains not only a nearly full series of North American birds, including many specimens of historic interest, but also about two-thirds of all the known species of Mexico, the West Indies, Central America, and South America. It includes the types of nearly all the many species described by Mr. Lawrence, and as a reference collection will prove of the highest value. The Museum is especially to be congratulated on securing a collection of such rare scientific importance.

A further important addition consists of a collection of 4000 bird skins, about 150 clutches of well-identified eggs (generally with the nests), and several hundred bird sterna, from the Province of Matto Grosso, Brazil, purchased of Mr. Herbert H. Smith (see Auk, IV, p. 84). This collection numbers about 300 species, including many of special interest, and doubtless, when fully worked up, will yield some novelties. In many instances the suites show the changes of plumage from the nestling bird to maturity.

While these three collections add vastly to the scientific resources of the ornithological department of the Museum, a very noteworthy addition has been made to the exhibition series of birds, consisting of eighteen very elaborate 'Group Pieces.' These are arranged in twelve cases placed in the alcoves of the 'Bird Floor', and illustrate in a striking manner the nesting habits of the species represented. Each group consists of a pair of birds, with their nest and eggs, surrounded by their original accessories, varying, according to the species, from a bit of salt marsh, pasture, or a woodland bank, to a full-blown apple bough or cherry sapling. In case of the bush- or tree-nesting species, the nest has been left *in situ*, the foliage and the blossoms of the bush or branch being reproduced in *fac simile* from nature; in the ground-nesting species the nest has been taken, with a square yard of the sod on which it rested, to the Museum, the grass and other plants growing thereon remaining intact, and the perishable parts faithfully reproduced in detail exactly as in life, thus giving results eminently realistic. The modelling of the plants has been done by Mrs. E. S. Mogridge, aided by her brother Mr. Mintern, both formerly of the South Kensington Museum of England, the celebrated bird groups of that institution being also the work of their skilful hands. The careful and laborious gathering of the material, the designing of the groups as to special effect in each case, and the general ground-work, is the work of Mr. Jenness Richardson, who has displayed excellent taste and skill in his share of the details.

To Morris K. Jesup, Esq., President of the American Museum, is due the idea of reproducing here groups similar to those of the South Kensington Museum, while the Museum is indebted to the generosity of Mrs. Robert E. Stuart for the means to carry it into effect. Through her liberality the work will be continued, and some twenty or more groups added the present year. The unrestricted means available for the work permits the attainment of finer results than have ever before been attempted, and

which, so far as this country is concerned, are unique. To the general public these 'Bird Groups' are eminently attractive and instructive.

The efficiency of the Department of Ornithology has recently been further greatly enhanced by the purchase of Mr. D. G. Elliot's ornithological library, consisting of about 1000 volumes, selected with great care as to their utility, and embracing many of exceptional rarity. Its purchase goes far toward placing the library of the American Museum in the front rank of American libraries as regards works relating to ornithology. The Elliot library is a gift to the Museum from two of its trustees, Mr. Cornelius Vanderbilt and Mr. Percy R. Pyne.

In the April number of 'The Auk,' it was stated that the unrivalled collection of Ohio birds formed by the late Dr. J. M. Wheaton, had been placed in the State University. We have since been authoritatively informed that this statement is incorrect. Our informant writes: "The Doctor's collection of bird skins is not now and never has been at the Ohio State University, but is, as it always has been, in the Doctor's house. It was his intention to place them in trust in one of the City Parks—the 'Franklin'—on condition that a suitable place be constructed to display them and take proper care of them. With the usual shortsightedness, the great probability is that no provision will be made for this trust, and that this invaluable collection will be allowed to go from Columbus. There are about a thousand specimens, representing all of the Ohio fauna, together with many foreign species. As every ornithologist knows, this collection can never be duplicated."

The 'Transactions' of the Ottawa Field Naturalists' Club are now issued monthly under the title 'The Ottawa Naturalist,' the first number of which bears date April, 1887. Besides the usual papers, reports, and record of proceedings, it will contain "an account of each general meeting, soiree, class, excursion, sub-excursion, or other undertaking of the Club."

It is announced that 'The Ornithologist and Oölogist,' beginning with the July issue, "will pass into the possession of the Bristol Ornithological Club," of which it will be "the official publication." Mr. Frank B. Webster, 409 Washington St., Boston, will remain its publisher.

From a private letter of an ornithologist, recently in Florida, we select the following suggestive reference to the destruction of Herons in Florida: "Plume hunters have destroyed about all the Florida 'Rookeries.' I saw one whole wagon load of the scapular plumes of *Ardea wardi*, at one point. It is a burning shame, and it would make your heart ache to hear the wails of the starving young birds whose parents have been killed. Two years more of the present work and *Ardea wardi*, as well as the large and small Egrets, will be as scarce as *A. wuerdemanni* is now. Cannot something be done to stop such wicked slaughter?"